# MERCK'S BULLETIN

A Periodical Record of New Discoveries, Introductions, or Applications of Medicinal Chemicals.

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The Growth and Success of

# "Merck's Bulletin"

*Has been a surprise to those who did not fully understand and appreciate its motto:*

**——"Moved by Professional—not Business—Interest."——**

*"Merck's Bulletin" is to-day acknowledged by all who are familiar with its pages, as a publication of Intrinsic Scientific Merit and of Eminent Practical Value to every professional man who has in any wise to deal with the Modern Materia Medica.*

*In consequence, its regular edition,—numbered by hundreds only at the start,—to-day, after the publication of only three volumes, is numbered by thousands; and it may be truly claimed that all the progressive and energetic Physicians and Chemists of the United States, who have ever closely examined it, are to-day on its subscription-roll, and mean to stay there!*

*This surprisingly rapid growth of patronage from the best professional elements has been answered by an increase in both the amount and the usefulness of its contents. While the Volume for 1888 consisted of but 64 pages, that for 1889 had 172, and the one recently completed, for 1890, has 162. This may appear as a small*

CONTINUED ON IIID COVER PAGE.

***Substances marked thus (*) are OBTAINABLE; may be ordered from any Dealer.***

***Substances marked thus (†) are NOT YET in the market. (Will be noticed again when obtainable.)***

## SOME ANESTHETICS.

**1.—*Ethyl Bromide,** (MONO-BROM-ETHANE; *Hydrobromic Ether*—[*See* "MERCK'S INDEX," p. 47])—$CH_3$ $CH_2$ Br,—which was exhaustively described in three previous articles (1), has been made the subject of a treatise by Dr. J. FESSLER (2), entitled:—

**"Narcoses from Ether Hydrobromic, Merck, chem. pure,"**

in which the author gives several *practical hints on the administration* of this Anesthetic.

Dr. FESSLER writes:—"This substance is best obtained from E. MERCK, of Darmstadt.

"The preparation *must be pure and fresh;* the contents of a bottle must be *used up the same day* the bottle is opened, *or thrown away!* Preparations that have been exposed to bright light or to air should not be used. For this reason, also, the *cloths or flannel masks*, which have once been employed in producing the narcosis, should not be used again before having been thoroughly cleansed and aired.

"A strong, thick cloth or napkin,—wrapped in several thicknesses into the form of a cone, the pointed end of which is rendered more air-tight by being tied with a string,—answers for an anesthetic apparatus. If an "ESMARCH'S mask" is to be used for the narcosis, the flannel must be *twice as thick* as that usually employed, and must be folded in two layers. (A series of narcoses produced by me in the course of last summer were executed by means of the ordinary ESMARCH mask covered with an almost transparent woolen cloth, and I believe that on several occasions this circumstance was the cause of failure.)

"It is of advantage, before beginning the anesthetic application, *to calm the patient* by a few suitable remarks; this,—which Narcotizers and Hypnotizers generally do,—seems to have a great influence on the mind and to favor the quiet progress of the narcosis. The patient is then requested to

(1) MERCK'S BULLETIN, 1888; p. 15;—1889; p. 23;—1890; p. 25.

(2) *Münchener Medizinische Wochenschrift*, 1890; No. 2.

take breath deeply and quietly; and the mask, into which the greater part (¾) or all of the contents of the bottle just opened have been poured, is held tightly over his nose and mouth.

"Quiet in the vicinity of the patient is necessary at the beginning of the narcosis; *he should not be touched;* the corneal reflex should not be tested.

"*A slight extension of the extremities* will be noticed to follow after a few inspirations,—which latter usually remain deep and quiet. **Complete Anesthesia** *is attained as soon as this extension begins to disappear*; NOW is the time to operate *rapidly*, for sensibility returns again in a few minutes. It is true we may *prolong the narcosis for a few minutes*, but not more, by pouring 30 grammes [1 fl. oz.] more of the ETHYL BROMIDE into the mask."

—According to the above hints from Dr. FESSLER, it appears advisable to procure the BROMIDE OF ETHYL *only in original packages*; that is, vials or *hermetically sealed tubes* containing *one ounce;* because any measuring-out or subdividing of the preparation may induce decomposition in it.

**2.—*Methyl Chloride**—($CH_3$ Cl).—In contradistinction to Ethyl Bromide, which is used *only* as a General Anesthetic *by Inhalation*,—METHYL CHLORIDE is used *only* as a **Local Anesthetic**; that is, it is *applied directly to the surface* of the part to be anesthetized. Unlike the Inhalation Anesthetics, therefore, it has *no chemico-physiologic* action on the nerve-centres, but a *mechanico-physiologic* one on the peripheral nerve-filaments of the cuticle;—acting, as it does, merely by sudden abstraction of bodily heat from the surface to which it is applied.

METHYL CHLORIDE, at ordinary temperatures, is a gas, which assumes the *liquid* form at —36° C [—32.8° F], or when subjected to a pressure of 5–6 atmospheres. In this form it boils at —22° C [—7.6° F]; and at 15° C [59° F] it exerts a pressure of 4 kilogrammes to the square centimetre [55 lbs. Av. to the sq. inch]. Its vapor when ignited burns in the air with a green flame.

If LIQUEFIED METHYL CHLORIDE is permitted to evaporate in a test tube, intense cold is produced, and soon a thick deposit of ice will be seen to gather on the surface of the tube. It is this property of producing coldness—as above indicated,—to which it owes its use in therapeutics as a local anesthetic.

Owing to its physical character, as described, the LIQUEFIED METHYL CHLORIDE *can be preserved only under strong pressure.* Hence, it occurs in the trade only in strong metallic containers, constructed similarly to those containing liquefied carbon di-oxide. To apply it to the body, a stop-cock in the container is opened sufficiently to let the METHYL CHLORIDE escape from the cylinder in as fine a stream or spray as possible; this is directed on the part to be operated upon, and its vicinity.

According to DEBOVE (3), a spray along the course of the sciatic nerve for a few minutes suffices usually to allay *Sciatica.* Seldom are there more than two applications needed *for a complete cure.*

Although quite a series of investigators, such as PEYRONNET DE FONVIELLE, VINARD, ROBIN, RENDU, LETULLE, SACRE, NERVAL, etc., have confirmed the favorable reports on the success of METHYL CHLORIDE in a large number of neuralgias most widely different in their natures, this remedy is still not likely to have a very extended use in *general private practice*, on account of its being manageable, as above described, *only in compressors.* Considerable skill is needed for the safe handling of such apparatus, so as to avoid severe eschars and blisters, which might result from awkward manipulation, by allowing *too strong a spray* to act on the skin. It seems to be adapted primarily as a Palliative and Remedy in **Neuralgic affections,** but hardly as an Anesthetic for a surgical operation of considerable duration.

**3.—*Methylene bi-Chloride** (DI-CHLOR-METHANE; METHYLENE CHLORIDE)—$CH_2Cl_2$—[*See* "MERCK'S INDEX," p. 94]—is a clear, colorless liquid of agreeable odor; specific gravity, 1.344; boiling-point, 40–42° C [104–107.6° F]. The *inhalation* of its vapor produces *general anesthesia.* It was recommended long ago by RICHARDSON and SPENCER WELLS as a *Substitute for Chloroform* for this purpose. These authors claimed for it the following advantages:—*Absence of the stage of excitation; prompt cessation of the narcosis* after discontinuing the inhalation, and *less influence on the heart* than from chloroform.

The **English** *so-called* "METHYLENE CHLORIDE," recently again so warmly recommended by Sir SPENCER WELLS (4), is NOT, however, the

(3) *Société Médicale des Hôpitaux*, 1884; Aug. 8.

(4) *British Medical Journal*, 1888; p. 1217.

above substance, having the formula $CH_2Cl_2$, but has been shown to be *a mixture* of 4 volumes of *Chloroform* and one volume of *Methyl Alcohol*. SPENCER WELLS claims wonderful success with *this latter preparation* in some 2,000 cases; but the claims of this author have been pronounced as requiring test by others as to their validity (5).

The question of importance to the pharmacist is, how to know what to dispense when "METHYLENE CHLORIDE" is ordered. Only when the *English* preparation ("*Methylene Chloride* according to RICHARDSON" is *specified*, the pharmacist should procure *the mixture* as indicated above; in all other instances, he should dispense the **True** METHYLENE BI-CHLORIDE,—$CH_2Cl_2$,—which boils at 40–42° C [104–107.6° F].

PURE METHYLENE BI-CHLORIDE, has lately been employed by F. WINDSCHEID (6) *also as a Local Anesthetic*, similarly to *Methyl Chloride*, described above, *by spray*, in painful affections of various forms. Of 55 such experiments made on 21 patients, 36 were successful,—the freedom from pain varying from one hour to half a day in duration.

**4.—*Eugenol**—[*See* "MERCK'S INDEX," p. 48]—the active principle of OIL OF CLOVES, has also been recently recommended for a *Local Anesthetic*. G. LEUBUSCHER (7), of Jena, has tried it, and found its anesthetic effect to be rather weak and superficial, so that he attaches but little significance to it in the above character.

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***Bromoform**—[*See* "MERCK'S INDEX," p. 28]—**in Whooping-cough.**—The physical and physiologic properties of BROMOFORM have been set forth in a previous number (8), where mention was also made of its therapeutic use in PERTUSSIS, as developed by Dr. STEPP, and formulas for its administration to children *in alcoholo-aqueous mixture* were given.

More recently (9), the same author published the following ADDITIONAL DIRECTIONS for its administration *without Alcohol*, if this should seem preferable to the physician:

"The administration of this preparation may be facilitated also by giving it

(5) *Verhandlungen des Deutschen Chirurgischen Kongresses*, 1889.

(6) *Deutsches Archiv für Klinische Medizin*, 1889; XLIV, 4, p. 340.

(7) *Centralblatt für Klinische Medizin*, 1889; Oct. 7.

(8) MERCK'S BULLETIN, 1889; p. 88.

(9) *Deutsche Medizinische Wochenschrift*, 1889; No. 44.

*in drop-form*, in which case one lets the requisite number of drops fall into a teaspoonful of *water*. The BROMOFORM sinks to the bottom of the liquid and collects there in the form of a pearl. On administering the dose, care must be taken *that the* BROMOFORM *pearl really goes into the mouth* of the patient. It is quickly swallowed, and the water following leaves the taste of the medicament scarcely perceptible.

"The DOSAGE of BROMOFORM is usually as follows:

"For a child 3–4 weeks old, 1 drop 3–4 times a day; for children up to one year old,—according to the intensity of the infection,—2–3 drops 3 times a day; for children 1–4 years old, 4–5 drops 3 times daily; up to 7 years old, 6–7 drops 3–4 times a day.—To *adults*, BROMOFORM may be administered in capsules containing 0.5 gramme [8 minims], 2–3 of which are to be taken daily."

—BROMOFORM is a very volatile body, and decomposes readily when exposed. It should therefore be kept in *well-closed bottles* and *protected from light.*

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***Copper Arsenite**—[*See* "MERCK'S INDEX," p. 39]—**as an Intestinal Remedy**,—in *Cholera morbus*, *Cholera infantum*, *Colic*, *Diarrhea*, *Dysentery*, etc.—Prof. JOHN AULDE, of Philadelphia, having published several papers on the above subject, giving hints for other investigators to pursue, was made the recipient of a number of reports on the same, filled-in on question blanks sent out by him to physicians who had shown interest in the matter by their correspondence with him.

The results thus obtained by collective investigation were synoptically tabulated by Prof. AULDE, and submitted to the Pennsylvania STATE MEDICAL SOCIETY at their annual meeting of 1890 in Pittsburgh. The number of contributors to this report is 26, including practitioners from all sections of the Union. Their cases are grouped as follows:

| | *No. of cases.* |
|---|---|
| Cholera Morbus | 116 |
| Colicky Pains, etc. | 82 |
| Cholera Infantum | 151 |
| Diarrhea and Dysentery | 198 |
| Diarrhea of Phthisis | 6 |
| Typhoid Fever | 23 |
| Anemia, Chlorosis, etc. | 4 |
| Total number of cases reported | 580 |

Of the 26 reporters, all but two give decidedly favorable summarizing conclusions,—the 2 exceptions withholding judgment on the ground of too limited experience. Of the others, *the majority concur* in passing judgment somewhat like this:

"Valuable in *both severe and mild* cases."

Most of these observers accentuated the high efficacy of the remedy, especially "*in the early stages*" of the diseases discussed; while a few insist on its value "*at any stage.*"—*Small* and *frequent* doses, and *early* medication, are, however, quite largely insisted on.

Speedy "relief," complete cutting-short of the morbid process, "cure," and "recovery," are among the characterizations most frequently to be found in the various reports.

—Prof. HUGO SCHULTZ, of GREIFSWALD UNIVERSITY ([10]), explains the action of COPPER ARSENITE in the intestines as being of an *organic*, not of a *chemical*, nature. That is, the small dose does not act on the morbific processes and products directly, by chemical decomposition; but it acts rather on the tissues of the intestines, stimulating their native repellant energy toward the morbific matters and influences.—Prof. SCHULZ says, further, that *no toxic effect* is to be apprehended at all, from the small doses as directed.

—Prof. AULDE adds the following general directions:

> "The indications for the exhibition of arsenite of copper practically cover all disorders of the stomach and bowels in the early stages, *before the inflammatory action has extended to the adjacent or contiguous structures*, and it may be given with perfect safety to adults and children."

DOSAGE.—Dissolve a tablet containing $\frac{1}{100}$ grain of the medicament in from four to six ounces of water; of this solution the patient takes a teaspoonful every ten minutes for the first hour, then a like amount each succeeding hour, or more frequently if deemed necessary. Children do not require more than half that quantity, and infants at the breast will be able to take but a few drops; *but the frequency of the repetition is of the utmost importance.* In cases in which water is contra-indicated, Prof. A. uses tablets containing only $\frac{1}{5000}$ grain each.

—Dr. BROUGHTON, of Reidsville, N. C., first recommended this drug

(10) *Deutsche Medizinische Wochenschrift*, 1890; No. 18.

for the relief of anemia, chlorosis, etc.; in which cases he advises doses of $\frac{1}{25}$ grain, three times daily.

[*See, also:* "ARSENITE OF COPPER," under "Selections," page 15 of *this Number.*]

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***Euphorin (Phenyl-ethylic Urethane;** *Carbamate of Ethyl and Phenyl*) — O: $C < \begin{matrix} NH\ (C_6\ H_5) \\ O\ (C_2\ H_5) \end{matrix}$ —is produced by the action of chlorocarbonate of ethyl on aniline. It is a white, crystalline powder of weak, aromatic odor and a taste, at first scarcely noticeable, which grows stronger subsequently, and is allied to that of cloves. Euphorin is not easily soluble in water, but very readily in alcohol; in alcoholo-aqueous fluids, as for instance in light wines, it dissolves sufficiently for medicinal purposes.

As recently reported by Dr. L. SANSONI, of Turin ([11]), small doses of Euphorin are well borne by man and the higher animals; even intraperitoneal injections of 4 grammes [60 grains] of it in alcoholic solution, produced no marked effects in a dog weighing 10 kilogrammes [22 lbs.]. To kill a rabbit of 1.8 kilogrammes [4 lbs.] weight, 5 grammes [75 grains] of the drug were required; they were dissolved in water and injected into the stomach by means of a tube; the animal died after 5 hours with the symptoms of collapse, gradual decrease of temperature, growing weakness, anesthesia and cessation of the reflexes.

*In man*, doses of 0.1–0.2 gramme [1½–3 grains] may be considered comparatively small. They alter neither the pulse, nor the respiration, nor the temperature. After ingestion of Euphorin, para-amido-phenol appears *in the urine;* but no phenol nor aniline, no albumen nor sugar; nor any reducing substances.

Euphorin was tested by Dr. S. in various diseases, and has therein exhibited excellent **Antithermic, Antiseptic,** also **Anti-rheumatic,** and in a few cases, **Analgetic** qualities.

1.—*Antithermic.*—Euphorin was tried in various Acute or Chronic Febrile Diseases (ileo-typhus, croupous pneumonia, pulmonary tuberculosis, acute arthritic rheumatism, orchitis, influenza, exudative pleurisy, angina ludovici, etc.); it was given in wafer-powders or in vinous solution. The antipyretic

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(11) *Therapeutische Monatshefte*, 1890; September.

action appeared within from one-half to one hour. It is usually followed by more or less profuse perspiration. The time required for reaching the maximal effect is usually 3 hours; occasionally it is more, sometimes as much as 6 hours; the action continues 5–7 hours on the average; rarely less (minimum 3 h.); at times longer (maximum 14 h.). The re-effervescence generally occurs suddenly and is accompanied by chills, whose force and duration are proportioned to the intensity of the disease and the fever.

During the apyrexia, the patient enjoys a feeling of general health even in cases of subnormal temperature (which have been observed by as much difference as 2° C [3.6° F]). Cyanosis seldom occurs, and but lightly and temporarily. Pulse and respiration remain regular,—being only retarded in proportion to the decrease of temperature. Real collapse was never noticed. The same dose produces, however, differently graded results in different individuals. It is best, therefore, to commence with small doses, in order to ascertain the patient's power of resistance. Usually, feverish patients can take 1–1.5 gramme [15–23 grains] without untoward results. Dr. S. noticed, however, that, while this dose was *borne well by weak persons*, *in strong ones* it occasioned *collapse-temperature*,—without, however, any of the other symptoms of collapse. 0.5 gramme [7½ grains] of Euphorin answers to 1 gramme [15 grains] of Antipyrine;—in patients under 15 years that quantity should be divided into two doses with ½ hour's intermission. It is generally advisable, however, *never to begin treatment with larger doses than* 0.1 gramme [1½ grains].

2.—*Anti-Rheumatic.*—Euphorin was tested in *acute* and in *chronic* rheumatisms. The *single doses* for *chronic* cases must be larger than those employed merely for reducing temperature.

A daily dose of 1.5–2 grammes [23–30 grains] is eligible; and it is better to administer this in a few large doses than in numerous small ones. In *febrile* rheumatism the disappearance of pains (spontaneous ones as well as those produced by pressure, movement or swelling) is noticeable; the movements of the body at once become freer. This effect takes place very quickly, coupled, also, with suppression of the fever and other attendant symptoms. The cases of *chronic* arthritis rheumatica, on which Dr. S. experimented, were such as had *resisted other specific remedies*; that is salicylic preparations, antipyrine, antifebrin, phenacetin. Euphorin in

these caused only slight remission of pain and permitted somewhat more freedom of movement.

3.—*Analgetic.*—This action of the new medicament was tried in various diseases, as below named. *The effect was very noteworthy* in certain cases (such as Orchitis); medium in others (Ischias, Neuritis cubitalis, Trigeminal Neuralgia, the darting pains of Tabes dorsalis); almost or entirely zero in others (Intercostal Neuralgia, Hemicrania). The doses, to be effective, should amount to 1–2 grammes [15–30 grains], or more, per 24 hours.

4.—*Antiseptic.*—Euphorin in powder was applied to inveterate, long-standing Ulcers and in chronic Opthalmia with excellent results, *much better than with any other remedy.* Within a few days the wound takes a different appearance, the fundus reddens, the suppuration disappears, and cicatrization takes place without delay.

The lowering of temperature by EUPHORIN is procured through the distension of the peripheral vessels. It may be proper to remark, however, that EUPHORIN *has no action on the blood.* The absence of serious symptoms (even with collapse-temperature, when it occurs), may be explained by the assumption that, in EUPHORIN, the group $C_2 H_5$ acts as a corrective to $C_6 H_5$.

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***Jambul,**—FLUID EXTRACT OF BARK,—**in Glycosuria.**—The powdered fruit and the bark of the East-Indian Myrtacea, SYZYGIUM JAMBOLANUM, called "JAMBUL" by the natives, were recommended some years ago by English physicians as a remedy in Diabetes ([12]). The action of this drug was said to consist in diminishing the secretion of urine, and in causing a disappearance of the sugar from the same. Even amylaceous food, it was claimed, might be taken without harm during JAMBUL medication.

Such a remedy was likely to be joyfully greeted in therapy, — the more so as the Materia medica had thus far offered but little assistance to the physician in the treatment of Diabetes. The fruit and bark of JAMBUL were, in consequence, used experimentally by a number of European physicians; the reports on their results were, however, quite contradictory.

GRÄSER first employed the FLUID EXTRACT OF JAMBUL *fruit*, in large doses, on dogs, in which *artificial* Diabetes had been induced by

(12) MERCK'S BULLETIN, 1890; p. 4–5.

means of *Phlorizin* ([13]). The principle results of his investigations may be summarized as follows:

1. Extractum Fluidum e fructibus Syzygii Jambolani is innocuous even in large doses;

2. Large doses of this drug are capable of almost completely suppressing the Glycosuria in dogs artificially rendered diabetic.

Gräser's experiments induced Dr. Vix, Medicinal Councillor at Darmstadt, to make therapeutical tests of this Fluid Extract, whereby the beneficial action of this remedy received complete proof.

Medication by means of Jambul Extract has the disadvantage, however, that the drug must be given in large doses, — 50–100 grammes [1⅝–3¼ fl. oz.] a day, — in order to prove efficient. It would be of great advantage, consequently, if *the active principle* of the drug could be isolated, with a view to its employment instead of the Galenic preparations.

The *high price* of the remedy also stood in the way, hitherto, of its continued use. But this drawback has been considerably lessened, recently, by E. Merck's preparing a Fluid Extract from the Bark of Jambul, the price of which is *but half* that of the extract prepared from the fruit.

Dr. Vix reports as follows ([14]) on three cases of Glycosuria in which he gave the Fluid Extract of the Bark:

*Case I.* — Fifty grammes [1⅝ fl. oz.] were administered to a man 54 years of age, suffering for several years from slight Glycosuria, for which he had already visited Karlsbad. After *this one* diurnal dose, — given dividedly within 24 hours, — *sugar could no longer be detected in the urine.* This freedom from sugar continued up to the date of the report, being 10 days after the above medication, although *no strict diet* had been maintained.

*Case II.* — Two hundred grammes [6½ fl. oz.] were given within three days; the sugar disappeared, returned on one occasion, in traces, and could no longer be detected in the urine at date of report, being the third day; although the diet had not been much restricted. (The personal circumstances are similar to those in Case I.)

*Case III.*—A man 46 years of age, who had suffered for 5 years from Glycosuria, with a medium degree of Albuminuria. At Karlsbad the excretion of sugar had *increased.* Two doses of 100 grammes [3¼ fl. oz.]

(13) Merck's Bulletin,—as above.

(14) By letter to E. Merck.

each of EXTRACTUM JAMBULI E CORTICE, given on separate occasions, each time reduced the proportion of sugar in the urine *from* 3% *to* $\frac{4}{10}$%. A later dose of 100 grammes EXTRACTUM JAMBULI E FRUCTIBUS was followed transiently by excretion of urine *free from both sugar and albumen.* The patient at this stage, however, discontinued the JAMBUL medication on account of the great cost of the FRUIT EXTRACT—(the BARK EXTRACT being then as yet unobtainable).

Dr. VIX could not at the time complete his experiments, owing to the limited quantity of the preparation at his disposal; but from what he has seen, he comes to the following conclusions, *for the present:*

On the whole, the FRUIT EXTRACT is the more energetic one,—as has been shown already by earlier experiments; but its taste is more disagreeable, and the red color it imparts to the urine is a disturbing element in tests. The BARK EXTRACT does *not* color the urine. The author noticed no injurious effect from either preparation. After his comparatively large doses, as of 50 grammes, there sometimes followed a hardly perceptible, and very transient, disturbance of the general condition. On two occasions, also, the stools became somewhat more liquid. The specific gravity of the urine was, in one of the cases, temporarily depressed from 1.027 to 1.003.

The circumstances of *private practice*,—particularly in regard to the control of diet and the collection of all the urine voided,—may excuse slight inaccuracies in the observations reported.

The exact effect of JAMBUL EXTRACT on protracted use, and in graver forms of *Diabetes mellitus*, still remains to be determined. Dr. Vix hopes to be able to report hereon within a brief time.

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†**Koch's Anti-tubercular Lymph.**—L. REUTER ([15]) describes this substance as a clear liquid of faint brownish color, of perfectly neutral reaction; clearly soluble in water. Its aqueous solution, slightly hydrochloro-acidulated, yields abundant precipitates with Iodized Potassium Iodide and with Gold tri-Chloride. Its aqueous solution, nitrico-acidulated, yields a precipitate of Silver Chloride on the addition of Silver Nitrate. According to these reactions, REUTER considers the KOCH LYMPH as consisting

(15) *Apotheker-Zeitung*, 1890; p. 734.

of a *solution of a neutral Hydrochlorate of some Alkaloidal substance* (possibly of a *Ptomaine*).

***N. B.***—A conclusion *exactly opposite* to the above, in relation to the presence of ALKALOIDS and PTOMAINES in KOCH'S LYMPH, is drawn by Prof. SCHNITZLER from his own tests (apparently, however, on insufficient grounds if correctly reported!)—*See under* "SELECTIONS," page 14 of *present Number*. Page 15, *also, compare* "ENZYMES IN THERAPEUTICS."

—The recent disclosures by Prof. KOCH, touching the *principles of preparation* of his remedy (as "cabled" to the American press from Berlin on January 15th, 1891), contain no positive statement or indication whatever on the *chemical nature of its active constituent.*—Only, from what is said on the genesis of the fluid, there is no more room for the assumption, as by REUTER (above), of the presence of a "Hydrochlorate." (R.'s chlorine reaction may easily derive from the "mineral salts," mentioned by KOCH as being among the natural impurities of his preparation). —The assumption of a *Tox-albumin*, as by SCHNITZLER (p. 15 of present number!), is likewise contradicted by the Berlin telegram; while there remains abundant room, so far, for the "*Alkaloid or Ptomaine*" hypothesis.

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* **Methylene Blue**—[*See* "MERCK'S INDEX," p. 17]—as an **Anodyne.**—Prof. P. EHRLICH and Dr. A. LEPPMANN ([16]) have recently,—induced especially by Prof. J. STILLING'S discovery of the *pus-inhibiting* action of PYOKTANIN ([17]),—published some researches of theirs on the action of ARTIFICIAL COLORING MATTERS on definite organic structures.

In this connection, METHYLENE BLUE appeared of particular interest, —being shown to have a marked affinity for the *nervous system*, specially for the axial cylinders of the sensory nerves.

Practical trials of the anesthetic influence of METHYLENE BLUE were had on the inmates of the Imperial Moabit Penitentiary in Berlin, who were regarded as subjects specially suited for these experiments; because they were almost all about the same age and living under similar and very methodical conditions and regulations.

*Chemically-pure* METHYLENE BLUE, *free from Zinc Chloride*—a condition

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(16) *Deutsche Medizinische Wochenschrift*, 1890; No. 23.

(17) MERCK'S BULLETIN, 1890; pp. 49, 99, 108, 111, 128, and 131.

of primary importance—was used. A concentrated solution—say, of about 2%—was first employed *hypodermically*, in doses from 0.5 to 4 cubic centimetres [8 min.–1 fl. dr.],—thus containing from 0.01 to 0.08 gramme [1/6–1 1/4 grains] of the dye. *Internally*, doses of 0.1 to 0.5 gramme [1 1/2–7 1/2 grains] of the finely powdered remedy, in gelatine capsules, were employed later. The largest daily dose reached was 15 grains.

An attempt to prepare a more concentrated solution than the above for subcutaneous use was not successful.

The injections were painless and, except for a pasty white swelling which sometimes lasted for some days, also without local effect. *No injurious action* manifested itself either during the prolonged continuation of this, or of the internal method of administration. Appetite, digestion, pulse, and the general condition remained in the main unchanged; only twice out of about 40 cases did vomiting occur, and then from special causes.

Even after the smallest dose, within 1/4 to 1 hour after internal administration or injection, the urine passed was pale green, after 2 hours it became bluish green, and after 4 hours deep blue. Sometimes the coloration showed itself only on heating the liquid or allowing it to stand (the dye having been transformed into "Leuco-methylene Blue"). Pathological constituents were never found in the excretion.

The remedy proved to be an ANODYNE in certain forms of *painful local affections, i. e.* in all NEUROTIC PROCESSES and in RHEUMATIC AFFECTIONS of the MUSCLES, JOINTS, and TENDON-SHEATHS. The action is peculiar in that it first shows itself, without exception, a few (generally two) hours after administration; and, with appropriate dosage,—injections of 1 grain or internal doses of 1 1/2 to 4 grains,—it gradually increases until a stage of considerable remission, or even of complete absence, of pain is attained.

On injection of METHYLENE BLUE into the living animal, coloration of the nerves immediately takes place, but does not remain uniform: in the course of an hour the diffused color disappears, and, in its stead, irregular intensely blue granules make their appearance in the axial cylinders of the nerve-trunks.

It seems evident herefrom that the action is *purely anodyne;* no direct influence on inflammatory swellings, or on effusions into the joints or ten-

dons, was observed. *Continued use of the* remedy *does not seem to be followed by decreased sensitiveness to its analgetic powers.*

Some 25 cases of local affections of the classes above named are mentioned, in which METHYLENE BLUE was tried, and never entirely without success. In by far the greater number of cases the effect was marked and lasting.

In other affections, as, for instance, in the osteocopic pains of syphilis and in the violent pains of gastric ulcer, METHYLENE BLUE was found to be of no service. Similarly, it was ineffectual in symptoms of general neurasthenia, in psychical excitement, hallucinations, illusions, and insomnia.

Placing METHYLENE BLUE in comparison with Antipyrine, it is found to possess the advantages of smaller dose, of painlessness on injection, and of cheapness; on the other hand, the slow manifestation of the action is not in its favor. In the majority of cases it is possible to obviate this minor drawback by a suitable method of administration; and this very property may peculiarly fit the remedy for combination with others, as, for instance, with Morphine, *to prolong the anesthetic period.*

---

**Pyoktanin** ([18]) **Stains** *are readily removed* from the Operator's hands by washing with SPIRITUS SAPONATUS (*Pharm. Germ.*), or with a 10-% SOLUTION of CASTILE SOAP in ALCOHOL, or with LIQUOR SODÆ CHLORATÆ (Labarraque's solution).—[If *the latter* has been used, the chlorine odor may be removed by washing with SOLUTION of SODIUM THIO-SULPHATE].

**Pyoktanin** ([18]) **Pencils,** *when broken, are mended* by simply wetting the severed surfaces with water, and pressing them together gently; when dry, they will cohere.

---

# SELECTIONS.

## KOCH'S LYMPH. ([19])

An analysis by Prof. SCHNITZLER, of Vienna, gives the following results (*Lancet*): It is a syrupy, slightly foaming liquid of brown color, its aqueous solutions showing a greenish fluorescence. In odor it resembles elder yeast or leaven combined with a sweet aromatic admixture such as honey. If slowly heated the smell of yeast gives way to an

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(18) MERCK'S BULLETIN, 1890; pp. 49, 99, 108, 111, 128, and 131.

(19) *Medical Record*, 1890; p. 701.

agreeable odor resembling fruits; on further heating the smell becomes like that of fresh bread crust, but without the acid character of fruit. If the heating of the substance is continued the smell assumes the empyreumatic character of that exhibited by burning albuminous matter and carbonizing horny substances. Only an extremely small quantity of ash (under one per cent.) was obtained. The liquid shows a neutral reaction. Some of the liquid was diluted with water and subjected to various tests. By adding diluted acetic acid it becomes slightly opaque, by which the presence of a small quantity of mucin is indicated; by further adding potassium ferrocyanide the opacity of the liquid is increased, showing the presence of albumin; but this reaction is too feeble to indicate the amount of the active principles in the LYMPH. On the other hand, the biuret reaction characteristic of peptones is very strongly marked. The tests for cyanogen compounds gave perfectly negative results, and the assumption that KOCH has been using cyanides of gold or prussic acid seems therefore completely erroneous, as no metals could be detected in the liquid. Traces of reduction were observed after treating the liquid with FEHLING'S solution, but the presence of sugar among the reducing substances could not be confirmed. Sulphur and phosphorus in an organic form proved to be absent. As only a small quantity of the LYMPH could be used for chemical examination, it was impossible to shake the liquid with ether and alcohol for the purpose of separating the alkaloids, if present, from the albuminoids; but the reagents which reveal the presence of alkaloids and ptomaines even when mixed with albuminoids—*e.g.*, acid bichromate of potassium—failed to give a reaction, *so that the absence of alkaloids and ptomaines may be taken for granted.*—([20]) It seems, therefore, that besides the peptones, the principal active substances contained in KOCH'S LYMPH belong to that not yet chemically defined class of the protein bodies called toxalbumins, globulins, or enzymes, which play such an important *rôle* in all fermentative processes, from the chemical changes produced by common yeast in the products of the vegetable kingdom up to the coagulation of the blood in animals.

## ENZYMES IN THERAPEUTICS. ([21])

NENCKI and SAHLI have published a paper hereon in the *Correspondenzblatt für Schweizer. Aerzte*, with the idea of throwing some light upon KOCH'S remedy. They point out that the intravenous injection of these *soluble ferments* in various other diseases produces changes closely allied to those brought about by the liquid of KOCH in tuberculosis. It is stated that the favorable action that follows the inoculation of the *streptococcus erysipelatus* into malignant tumors is probably due to the presence of the soluble ferment produced by the cocci.

## ARSENITE OF COPPER IN CHOLERA MORBUS, ETC. ([22])

BY R. C. TAPPAN, M. D., NEWARK VALLEY, N. Y.

I was called to a severe case of cholera morbus, the patient having had several attacks before, having had morphia prescribed hypodermically by all of the physicians who

(20) *See present Number of* MERCK'S BULLETIN, 1p. 1;—"KOCH'S ANTI-TUBERCULAR LYMPH."
(21) *Medical News*, 1890; p. 640.
(22) *The American Medical Journal of St. Louis, Mo.*, 1890; p. 435.

attended. I directed that a mustard poultice be applied over pit of stomach and kept on until the surface of the skin was reddened, then removed. I then prescribed one $^1/_{100}$-grain tablet of COPPER ARSENITE dissolved in four ounces of water, and a teaspoonful of the solution given once in ten minutes until six doses were given; after that once in half an hour for a few times; then once an hour until relieved. The vomiting was controlled after the third dose was taken, and the diarrhea and pain after the sixth dose, the patient recovering, so that it was not necessary for me to visit him but once after. *I have used this remedy in nearly a score of cases of cholera morbus and intestinal colic with like results.* Have also found it useful in certain cases of *cholera infantum* accompanied with cutting pains and cramping, with movement of bowels. I more frequently prescribe this remedy in the *diarrhea of typhoid fever* than almost any other, unless it is Salol in combination with Bismuth; it is particularly indicated if the diarrhea is accompanied with sharp griping pains and straining. I think this remedy worth studying.

# GATHERED FORMULAS.

## 1.—ROTTER'S ANTISEPTIC.

| | |
|---|---|
| Zinc Chloride | 45 grains. |
| Zinc Sulpho-Carbolate | 45 " |
| Boracic Acid | 27 " |
| Sodium Chloride | 2½ " |
| Salicylic Acid | 6 " |
| Citric Acid | 1 grain. |
| Thymol | 1 " |

—The whole to be dissolved in one pint of Water.—

(For Compresses, Irrigation of Wounds, etc., in Surgery).

## 2.—ICHTHYOL in Acne.

—Paint.—

| | | |
|---|---|---|
| ICHTHYOL (Ammonium Sulpho-ichthyolate) | 3 grammes | [45 grains.]. |
| Distilled Water | 10 " | [2½ fl. dr.]. |
| Glycerin | 10 " | [2 fl. dr.]. |
| Dextrin | 10 " | [2½ drams]. |

—Mix by the aid of gentle warmth.—

*Paint in the evening; wash with warm Soap-water in the morning.*—[Paint with a weak solution of CORROSIVE SUBLIMATE for the day.]

CONTINUED FROM IID COVER PAGE.

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# MERCK'S INDEX

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## *PYOKTANIN, Blue and Yellow,

THE

**Surgical, Ophthalmiatrical, and Veterinary Antiseptic,**

described in the preceding volume ([23]), has been very largely treated in medical literature since Prof. STILLING'S first publications on it in the summer of 1890. *The mass of the verdicts* passed upon it, both by bacteriological and therapeutical authorities, *is vastly in its favor.*

JÄNIKE ([24]), by repeated series of very exact and searching experiments, found that *exceedingly small traces* of PYOKTANIN, added to BACTERIOLOGICAL CULTURES, *sufficed for arresting the growth and development, or even for destroying, most of the important varieties of Pathogenic Bacilli.*

Staphylococcus aureus was *arrested* by 1 part of PYOKTANIN in 2,000,000 of culture liquid; Anthrax Bacillus, and Bacillus subtilis, by 1 : 1,000,000; Streptococcus pyogenes by 1 : 250,000. Staphylococcus aureus was *destroyed within ten minutes* by 1 part of PYOKTANIN in 20,000 of culture-liquid; Streptococcus pyogenes and spore-free Anthrax by 1 : 1,000 *within half a minute.*—While, on the other hand, Typhus Bacilli proved fairly resistant to PYOKTANIN, the development of Cholera Bacilli ceased at 1 in 62,500.

The principles according to which PYOKTANIN ought to be applied have been fully explained by Prof. STILLING in his previous publications, as cited above. *Disregard of these principles* is the evident cause of the less gratifying results obtained by a few investigators, as exposed by Prof. J. STILLING in his "Second and Third Reports," published in this journal ([25]).—With others, the cause of the disfavor with which they regard PYOKTANIN is its **Staining quality.**—*This objection has been completely met* by the directions given in the preceding number ([26]), for the EASY REMOVAL OF PYOKTANIN STAINS.

(23) MERCK'S BULLETIN, 1890; pp. 49, 99, 108, 111, 128, and 131.

(24) *Fortschritte der Medizin*, 1890; No. 12.

(25) For the points in STILLING'S "Second Report," hereto especially pertinent, *see* MERCK'S BULLETIN, 1890; pages 117, 120, 123, 125.—For those in his "Third Report," *see* MERCK'S BULLETIN, 1890; pages 131, 138, 140, 142, 144.

(26) MERCK'S BULLETIN, 1891; p. 14.

*Most happy results* have been had from **Surgical uses** of PYOKTANIN, by BRANDENBERG ([27]), FESSLER ([28]), VOIGT ([29]), SCHUBERT ([30]), KESSLER ([31]), VAN ARSDALE ([32]), and VINDEVOGEL ([33]).

In the **Ophthalmiatrical uses** of PYOKTANIN, the *favorable experiences* of Prof. STILLING *have been confirmed* by PEDRAZZOLI ([34]), WANSCHER ([35]), GALLEMAERTS ([36]), NOGUÊS ([37]), LAINATI and DENTI ([38]), and POHL ([39]), —and by many others. Some of these authors have reported successes in *cutting-short Purulent processes following in the wake of Cataract operations*,— successes which evidently saved eyes otherwise irretrievably doomed to destruction.

*Further excellent results* with PYOKTANIN have been reported in **Rhino-pharyngo-laryngological Practice,** by BRESGEN ([40]), KELLERER ([41]), and SCHEINMANN ([42]);

—in **Otiatria,** by NETTER ([43]);—

—in **Dentistry,** by ZIMMER ([44]);—

—in **Syphilis** and **Gonorrhea,** by PETERSEN ([45]), by KANNE ([46]),— and by numbers of others.

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In **Veterinary practice, Pyoktanin** *has achieved one of the most brilliant victories* ever scored by any drug or medicament; inasmuch as the

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(27) *Correspondenzblatt für Schweizerische Aerzte*, 1890; No. 17.

(28) *Münchener Medizinische Wochenschrift*, 1890; No. 25.

(29) *Aerztlicher Centralanzeiger*, 1890; No. 25.

(30) *Deutsche Medizinal-Zeitung*, 1890; No. 71.

(31) *New York Medical Record*, 1890; Vol. XXXVIII, January.

(32) *New York Medical Journal*, 1890; August 23.

(33) *Organe de la Confraternité*, 1890; October.

(34) "I colori di Anilina come antisettici," Pavia, 1890.

(35) *Hospitals tidende*, 1890; No. 40.

(36) *Annales d'oculistique du Dr. Warlomont*, 1890; July and August.

(37) *Médecine moderne*, 1890; No. 35.

(38) *Gazeta degli ospitali*, 1890; p. 354.

(39) Inaugural Dissertation; FLENSBURG, 1890.

(40) *Deutsche Medizinische Wochenschrift*, 1890; No. 24,—and *Therapeutische Monatschrift*, 1890; p. 479.

(41) *Münchener Medizinische Wochenschrift*, 1890; p. 32.

(42) *Berliner Klinische Wochenschrift*, 1890; No. 53.

(43) *Medical Standard*, 1890; October.

(44) *Deutsche Monatsschrift für Zahnheilkunde*, 1890; p. 263.

(45) *St. Petersburger Medizinische Wochenschrift*, 1890; No. 24.

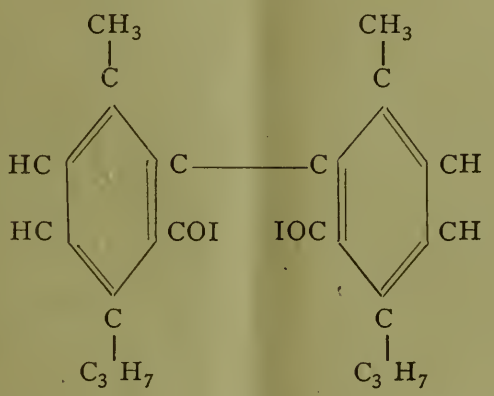
(46) *Weekly Medical Review*, 1890; May.

ROYAL PRUSSIAN DEPARTMENT OF AGRICULTURE, on the basis of an exhaustive series of experiments, officially instituted *in pursuance of Departmental orders* by the Government Veterinary Surgeon, Dr. MEHRDORF, of Breslau, has *authoritatively recommended* the use of PYOKTANIN, in FOOT-AND-MOUTH DISEASE (*Eczema epizoötica*) to all Veterinary Surgeons employed by, or acting under the authority of, the Prussian Government.

(***N.B.***—A summary of the results of Dr. MEHRDORF's investigations, as published by the Prussian Government, will be printed in an early number of this journal).

---

***Aristol (Di-iodo-di-Thymol),** — a new **Dermic Remedy,** first prepared by MESSINGER & VORTMANN,—is formed by adjunction of two Thymol molecules,—the Hydrogen in the Hydroxyl-group of each being replaced, respectively, by an Iodine atom,—thus:




It appears as a light-red brown, fine, adhesive, inodorous powder. Its percentage of IODINE is 45.8. It is *insoluble in water* and in glycerin, slightly soluble in alcohol, readily soluble in ether, and in fatty oils; its solutions, however, *must not be prepared at an elevated temperature*, because this would induce a change of molecular arrangement. For the same reason, ARISTOL must be protected from daylight.

According to the researches of EICHHOFF ([47]), ARISTOL possesses *no toxic properties.*

Employed as a 3 to 10% Ointment with Vaseline, it proved inefficient in Ulcus Molle; while *favorable results* were had in Ulcus Cruris, Tertiary

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(47) *Monatshefte für Praktische Dermatologie*, 1880; No. 2.

Syphilitic Ulceration, Lupus, Mycosis, and Psoriasis; according to SCHIRREN ([48]), SCHUSTER ([49]), ROSENTHAL ([50]) and NEISSER ([51]).

According to LANGGAARD ([52]), the following GENERAL RULES should be observed in prescribing ARISTOL:

> "*All substances are to be avoided*, for which IODINE has any chemical affinity,—thus embracing: Hydroxides, Carbonates, all the Alkali Metals, Ammonia, Metallic Oxides, Starch, Corrosive Sublimate, etc., etc. Hence the exhibition of ARISTOL will have to be confined to the following forms: DRY POWDER; or ETHEREAL or OILY SOLUTIONS; or with COLLODION, LANOLIN, or VASELIN, *as vehicles.*"

---

***Benzoyl-Guaiacol** (*Guaiacol Benzoate*) in **Phthisis.**—BENZOYL-GUAIACOL—

$$C_6H_4 < \begin{matrix} OCH_3 \ldots\ldots\ldots (1) \\ OCOC_6H_5 \ldots\ldots (2) \end{matrix}$$

—is a colorless, and almost odorless and insipid, crystalline powder; insoluble in water; readily soluble in chloroform, in ether and in alcohol; melting at 56-58° C [132.8-136.4 F]; containing 54% of Guaiacol.

This compound being formed on the same principle as Salol ([53]) and the Cresalols (Cresylic Salicylates) ([54]), it is capable, like these, of being introduced into the organism *per os, without affecting the stomach.* This quality appeared especially desirable in the treatment of Phthisis, because quantities of Guaiacol are here indicated which would not be well borne by the stomach if the Guaiacol were ingested in the free state. Accordingly, Prof. SAHLI, of Berne ([55]), at first recommended the above compound in Pulmonary Tuberculosis. His subsequent clinical experiences, however, do not seem to have borne out his hypothesis; for he now reports that, although he administered BENZOYL-GUAIACOL to consumptives in doses of 6–10

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(48) *Berliner Klinische Wochenschrift*, 1890; No. 2.

(49) *Monatshefte für Praktische Dermatologie*, Vol. X; No. 6.

(50) *Deutsche Medizinal-Zeitung*, 1890; No. 21.

(51) *Berliner Klinische Wochenschrift*, 1890; No. 19.

(52) *Therapeutische Monatshefte*, 1890; p. 263.

(53) MERCK'S BULLETIN, 1890; p. 12.

(54) MERCK'S BULLETIN, 1889; p. 31.

(55) *Correspondenzblatt für Schweizerische Aerzte*, 1890; No. 16.

grammes [1½ to 2½ drams] per day without producing any ill effects, *a distinct influence on the morbid process was not noted.*

—The very opposite opinion, on the latter point, has been promulgated by WALZER ([56]), who obtained results from BENZOYL-GUAIACOL in Phthisis, *at least equal to those attained with* CREASOTE.

*Dosage* (WALZER'S):—0.25 gramme [4 grains],—mixed with Peppermint-oil Sugar,—three times a day, after meals. This dosage is augmented by 0.05 gramme [¾ grain] at intervals of five days,—later on by 0.1 gramme [1½ grains],—until the *Daily Total* amounts to about 2.4 grammes [36 grains].

---

***Cetraric Acid** (Cetrarin—[*See* "MERCK'S INDEX," p. 35.]) as an **Anti-Chlorotic.**—The application of this substance in medicine (some preliminary researches on which were published in a previous number [[57]]) has now been *definitely indicated* by the researches of KOBERT and RAMM ([58]), according to whom CETRARIN is principally a *peristaltic stimulant.* They have also found it to *augment*, in man, the number of *the red and white blood-corpuscles*, especially when it has been diminished by pathologic processes. In small doses, CETRARIN was found to be a *mildly stimulative excitant of the central nervous system;* while large doses act lethally on warm-blooded animals, under spasmodic symptoms.

Accordingly, CETRARIN appears to be therapeutically indicated in Chlorosis, when lack of appetite, constipation, muscular lassitude and neurasthenia are among the symptoms to be combated.

*Dosage:*—0.1–0.2 gramme [1½ to 3 grains], internally ([59]).

---

***Chloral-Imide,**—$C\,Cl_3.\,CH : NH$,—a *superior* **Hypnotic.**—CHLORAL-IMIDE *should not be confounded with the so-called* "CHLORAL-AMIDE," (which is, properly: Chloral-form-amide: $C\,Cl_3.CH < \begin{matrix} OH \\ NH.\,CHO \end{matrix}$).—CHLORAL-IMIDE is in colorless, inodorous, and insipid, long crystalline needles;

---

(56) *Mittheilungen aus dem Mariahilf-Hospital in Aachen*, 1890.

(57) MERCK'S BULLETIN, 1890; p. 17.

(58) Session of the TENTH INTERNATIONAL MEDICAL CONGRESS; *Berlin*, 1890.

(59) *See also:* WLADIMIR RAMM,—"Histologische Studien aus dem Pharmakologischen Institut der Kaiserlich Russischen Universität Dorpat, II, 1890; pp. 1-140.

melting at about 166° C [330.8 F]; insoluble in water; readily soluble in alcohol, in ether, in chloroform, and in oils.

CHOAY (60) holds CHLORAL-IMIDE to be *superior, in its hypnotic effects, both to the so-called "Chloral-amide"* (61), *and to Chloral-ammonium* (62); because, in same dose, it *gives up more chloroform* to the organism than either of these two substances. An additional advantage of CHLORAL-IMIDE is its stability under the influences of light, air, and heat.

*Dosage:*—Same as of Chloral Hydrate.—CHLORAL-IMIDE may be administered in Wafers, in Pills, in Alcoholic solutions, or in an Oily emulsion.

---

***Erythrina Mulungu,**—(*Mulungú*),—**Bark.**—(*Papilionaceæ*). Indigenous to Brazil.

PECKOLT (63) discovered, in MULUNGÚ, a narcotic, bitter, extractive substance, acting similarly to Opium, but whose active principle he did not succeed in isolating.

---

***Guaiacol Salicylate** (Guaiacolic Salol),—

$$C_6H_4 < \begin{matrix} COO.\ C\ H_4.\ OCH_3 \\ OH \end{matrix}$$

—an **Intestinal Disinfectant.**—This is a white, insipid, odorless, crystalline substance; insoluble in water; soluble in alcohol; melting at about 65° C [149 F].

Both in its chemical and its physiological behavior, GUAIACOL SALICYLATE is very similar to BENZOYL-GUAIACOL (64).

From experiments by BOVET (65) it appears that GUAIACOLIC SALOL, similarly to ordinary SALOL and its congeners, *splits up into its two components in the intestinal canal.* The same fractionation takes place when the compound is mixed with putrescent matter. Therefore, this preparation may be regarded as an eligible one for Intestinal Disinfection.

---

(60) *Répertoire de Pharmacie*, 1890; p. 108.

(61) MERCK'S BULLETIN, 1889; p. 90.

(62) MERCK'S BULLETIN, 1889; p. 2;—1890; p. 79.

(63) Christy's "New Commercial Plants," pt. VII; p. 66.

(64) *See present Number of* MERCK'S BULLETIN, p. 20.

(65) *Correspondenzblatt für Schweizerische Aerzte*, 1890; p. 505.

†**Spermine, Not Shown to be Identical with Piper-azidine,** *and* **Not Synthetically Obtainable,** *as yet.*—Notwithstanding numerous experiments, NATURAL SPERMINE, on whose rejuvenating effects so many hopes were centered, *has not yet been obtained pure in any considerable quantity* (66). Hence, quite some time may elapse before NATURAL SPERMINE will be obtainable in the drug trade.

The difficulties so far found in the way of the isolation of the NATURAL SPERMINE have led to attempts at preparing its equivalent *synthetically*. Hitherto, however, these attempts have not yet led to any definite result.

On a survey of the chemical results published up to the present day, it appears that *the synthetic products* variously designated as PIPER-AZINE, PIPER-AZIDINE, ETHYLENE-IMINE, and DI-ETHYLENE-DI-AMINE *are mutually identical;* but that *their identity with* SCHREINER'S NATURAL SPERMINE from Spermatic fluid (67) is not yet established.—[See LADENBURG and ABEL'S, MAJERT and SCHMIDT'S, and A. W. VON HOFFMANN'S reports (68).] —LADENBURG, who first intimated the possibility of his "ETHYLENE-IMINE" being identical with SPERMINE (69), has taken up this question anew, and is now engaged in a comparative investigation of the two substances.

According to BOCK (70), the *excitant properties* ascribed to NATURAL SPERMINE are *totally absent from the synthetic compound* above named.

---

***Tri-chlor-acetic Acid** as a **Urine-Albumin Test.**—‡"I am by no means prepared for an elaborate report, but feel qualified to state that the new agent is a very delicate and certain indicator of the presence of Albumin. I do not think it superior in delicacy and certainty to the heat-and-nitric-acid test; but it will be found exceedingly convenient as a quick test to have in the vest-pocket. It can be used in any clean glass bottle, without heat, and would settle many clinical cases of albuminuria with very

(66) *See* PÖHL, in *St.-Petersburger Medizinische Wochenschrift*, 1890; July 14;—*and* A. JÜRGENS, in *Pharmazeutische Zeitschrift für Russland*, 1890; p. 726.

(67) *Liebig's Annalen*, Vol. 149; p. 68.

(68) *Berliner Chemische Berichte*, Vol. XXI; p. 766;—and Vol. XXIII; pp. 3297, 3718, 3740.

(69) *Berliner Chemische Berichte*, Vol. XXI; p. 758.

(70) *Therapeutische Monatshefte*, 1891; p. 38.

(‡) Letter to E. MERCK.

little trouble. Of course, all nice or doubtful questions would require later and more careful examination.

"I have prepared it in various ways, but find a saturated solution in water (ʒss to ʒi,—being 33⅓%) the best. Of this, 10 minims are enough for an ordinary test-tube. My custom is, to fill two test-tubes; hold them parallel before a dark object near a window; add the solution of TRI-CHLOR-ACETIC ACID *slowly to one*, and watch the *difference of behavior in the two tubes.* Albumin in very minute amounts is indicated by a slight grayish, opalescent coloring. In larger percentage, albumin produces a decided precipitate. In thirty-three cases, as tested by other reagents, it has not once failed. I have yet to find that it declares any *other elements* of suspected urine than albumin."

"C. F. HEYWOOD, M. D.,

"Oct. 11, 1890. *Medical Examiner for Life Assurance.*" (71)

"P. S. (Oct. 20).—If the percentage of albumin be large, it is betrayed in the urine very plainly by dropping from a pipette one drop after another of the SATURATED SOLUTION into a test-tube or common bottle. This quality makes the test invaluable at the bedside. I have used the agent in many more cases since writing the above, and always with an increasing amount of satisfaction." "C. F. H."

"2nd P. S. (Jan. 29, 1891).—*After the daily use, for six or eight months, of* MERCK'S TRI-CHLOR-ACETIC ACID, *I am convinced of the great value of the agent as a Urine-Albumin Test.* In some respects it is without a rival. For clinical use nothing else known is so handy, quick and decisive. These are qualities recommending it to the busy practitioner, who knows that the urine should be tested in every case requiring medical advice. As a matter of fact, *albuminuria generally exists for some time before it is found out.* The Examiner for Life Insurance is often its first detector. This would not be so if a simple trustworthy agent could be carried about in the pocket.

"To facilitate the general use of TRI-CHLOR-ACETIC ACID by the bedside, I have arranged to have a small *Vade Mecum* put upon the market, con-

(71) Dr. HEYWOOD is the Chief Examiner in the *Metropolitan Department* of the EQUITABLE LIFE ASSURANCE SOCIETY;—Offices at No. 287 Broadway, New York City.—ED. "M.'s B."

taining all the necessary articles for discovering Albumin in urine by this new method.

"*By this means it will be found that albuminuria is surprisingly common.* Much good can be done by discovering this sign early in its course; for although no one is liable to die from the draining of albumin through his kidneys, it is certainly an early indication that this organ is damaged for the time as a filter; and sooner or later the toxic constituents of the urine will be left behind and poison the blood, if the common cause of the serum excretion and the low specific gravity be not removed—or cease to act."

"C. F. H."

---

***Tritopine**—$C_{42}H_{54}N_2O_7$—is a new ALKALOID discovered in *Opium* last year by Dr. KAUDER, chemist in E. MERCK's Laboratories at Darmstadt ([72]).

TRITOPINE, a strong base, neutralizing mineral acids, occurs in opium in still smaller quantities than Protopine, recently described in this journal ([73]). It melts without decomposition at 182° C [359 F]. It is easily soluble in chloroform, but only with difficulty in ether. It crystallizes from alcohol in beautifully formed transparent prisms,—each part of the alkaloid requiring, for solution, about 40 parts of boiling absolute alcohol.

Most of its salts are very easily soluble in water and in alcohol, as for instance the *Hydrochlorate*, *Sulphate*, *Nitrate* and *Acetate*. The *bin-Oxalate* and *Hydro-iodate* are crystalline. The latter is rather poorly soluble in water.

In regard to the toxic properties of TRITOPINE, Prof. Dr. KOBERT says ([74]) that, like most of the opium alkaloids (for instance: Thebaine, Papaverine, and others), it exercises a **Spastic action**, *in the manner of Strychnine*; so that its application as a Narcotic appears to be precluded. When given in lethal dose, its final action is exactly like that of Strychnine,—that is, *Tetanic*.

---

(72) *Archiv der Pharmazie*, 1890; part 9.

(73) MERCK'S BULLETIN, 1890; p. 96.

(74) By Letter to E. MERCK.

# SELECTIONS.

## AMYLENE HYDRATE IN EPILEPSY. (75)

NACHE agrees with WILDERMUTH as to the value of AMYLENE HYDRATE in epilepsy, even where bromides have failed, and where the attacks are not only very frequent but severe. He uses a 10-% solution of the drug, and gives from 1 to 2 tablespoonfuls a day (from 30 to 90 grains). NACHE also believes that *petit mal* and nocturnal epilepsy are benefited by the drug.

## CREOLIN-PEARSON IN CHANCROID. (76)

The *Bulletin général de thérapeutique* for July 15th publishes an account of the experience of Dr. JOSÉ BUSQUE, of Penlotas, Brazil, in the use of CREOLIN as an application to soft chancres. It was used in the proportion of from twelve to twenty parts of CREOLIN to a thousand parts of water, and is stated to have *caused the sores to heal rapidly* even in cases in which the action of corrosive sublimate and that of iodoform had been tardy. However, the most rapid healing was secured by employing CREOLIN and Iodoform together.

## ICHTHYOL, INTERNALLY AND EXTERNALLY. (77)

ICHTHYOL has taken an important place in the therapeutics of dermatology. Of late, GADDE(*Therapeutische Monatshefte*) has *associated the internal with the external use* of the drug.

In a stubborn case of acne rosacea, washing with ICHTHYOL soap effected a cure in two months' time. The internal administration of ICHTHYOL appears to influence herpes zoster, for under it they dry up more quickly.

It also exercises a favorable influence in urticaria, purpura, and erythema nodosum.

Applied at the beginning of the disease a 50-% ICHTHYOL ointment is able to arrest the formation of a paronychia.

In alcoholics, the internal use of ICHTHYOL diminishes the trembling, augments the appetite, and improves the sleep, after a few days.

In chronic rheumatism, the remedy is of advantage internally and externally.

In chronic nephritis, and in chronic catarrh of the stomach also, the internal administration of ICHTHYOL is beneficial. It may be given in pill-form, capsules, or mixed with water.—*La France Médicale.*

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(75) *Journal of the American Medical Association.*

(76) *New York Medical Journal*, 1890; p. 410.

(77) *Weekly Medical Review*, 1890; p. 368.

## PYOKTANIN AS A TRAUMATIC GRANULATOR. (78)

Dr. RIESMEYER has a paper on PYOKTANIN in the *St. Louis Courier of Medicine*, November, 1890, in which he gives his opinion after what seems like a fair experience. He says that PYOKTANIN *has the advantage over all other diffusible germicides, in not coagulating albumin.* It keeps the granulations at an even level, the granulations looking solid and healthy. Wherever it was applied to granulating surfaces, he never saw spongy or exuberant granulations. He adds that *it will probably put a granulating surface into an excellent condition for grafting purposes and plastic operations in general.* Carbolic acid and iodoform often cause the granulations to be uneven; while the wounds treated with bichloride of mercury frequently have white necrotic deposits. In granulating wounds treated with PYOKTANIN he observed *a rapid reproduction of epithelium at the edge of the wound.* Carbolic acid and bichloride of mercury have the disadvantage of often destroying newly formed epithelium, unless the solutions are too weak to combat suppuration effectively.

---

## CREOLIN-PEARSON IN INFANTILE DISEASES. (79)

SCHWINZ has used CREOLIN in the treatment of a number of infantile diseases. In ten cases of *purulent ophthalmia in the newborn*, irrigations with a one-per-cent solution were practiced. In two of these cases, in which the disease was not very intense, there was *complete cure at the end of six days.*

Eleven cases of *thrush* (aphtha), which had been treated for a long time with potassium chlorate, potassium permanganate and boric acid without appreciable results, were *cured* by irrigations of the mouth and pharynx with one-per-cent solution of CREOLIN.

In cases of *umbilical periphlebitis* the use of an ointment of CREOLIN was followed in four days by *complete disappearance of the inflammation.* The author also writes that the use of undiluted CREOLIN by friction will give gratifying results in the treatment of *erysipelas.*

In five cases of *acute gastro-enteritis*, CREOLIN, given according to the following formula, caused the symptoms to *disappear in from three to six days:*

| | |
|---|---|
| CREOLIN | 3 drops. |
| Canella Water | 2½ ounces. |
| Syrup of Mallows | 6 drams. |

Dose for very young children, a small teaspoonful every hour.—For older children the CREOLIN may be given in powders, thus:

| | |
|---|---|
| CREOLIN | 15 minims. |
| Sugar | 75 grains. |

Divide into ten powders, and give one or two daily.

In the *surgical diseases* of children, CREOLIN, according to SCHWINZ, may be used

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(78) *The Medical and Surgical Reporter*, 1890; p. 76.

(79) *Archives of Pediatrics*, 1890; Dec.

in the strength of from one-half to one per cent, to produce *asepsis of the surface and cavities of the body*, without fear of poisoning.

## ETHYL BROMIDE IN DENTISTRY. (80)

Recently Dr. EDEL, a Berlin dentist, caused the death of his apprentice by the unwarranted administration of BROMIDE OF ETHYL. The enterprising dentist, *not contented with the effects of chloroform* given for the extraction of a molar, resorted *in addition* to BROMIDE OF ETHYL and promptly killed the boy. Dr. L. LEWIN, Docent of Pharmacology at BERLIN UNIVERSITY, ascribes the accident exclusively to the *combination of the two anesthetics*, which he regards as an inexcusable blunder. Others again claim that the drug was impure, and that the dentist is not to be blamed for the accident. It is certain that *with the exclusive use of* BROMIDE OF ETHYL, prepared by MERCK, *no accidents have been reported* even by dentists who, like Dr. GILLES, of Cologne, have administered this anesthetic in nearly *a thousand cases*. At the Berlin University Dental Clinic, BROMIDE OF ETHYL is never used, as Prof. BUSCH has had some very unpleasant experience with it. *With proper individualization*, however—exclusion of nervous and otherwise organically affected persons—BROMIDE OF ETHYL *appears a perfectly safe and very eligible anesthetic for dental and minor surgery.*

# GATHERED FORMULAS.

### 3.—CREOLIN-*Pearson* in Alopecia.—[SAWALOWSKI.]

—Wash.—

| | | |
|---|---|---|
| CREOLIN-*Pearson* | 0.05 gramme | [ ¾ grain]. |
| Mercury bi-chloride (corrosive) | 0.001 " | [ 1/64 " ]. |
| Rose-water | 100 grammes | [3¼ fl. oz.]. |
| Distilled Water | 400 " | [13¼ fl. oz.]. |

*Wash the Scalp with this Solution.*

### 4.—PAPAYOTIN in Diphtheria of Infants.—[CALDWELL (81)].

—Spray Inhalation.—

| | |
|---|---|
| PAPAYOTIN | 7.5 grammes [2 drams]. |
| Beta-Naphthol | 0.18 gramme [3 grains]. |
| Diluted Hydrochloric Acid | *fifteen drops*. |
| Distilled Water,—*enough to make* | 120 grammes [4 fl. oz.]. |

*Apply every half hour until* the temperature is lowered and the respiration easy; *thereafter, every hour, provided* the child be awake.

(80) Berlin Correspondence of *The Medical and Surgical Reporter*, 1891; p. 71.

(81) *Archives of Pediatrics.*

# PYOKTANIN IN CANCER.

**The Following Cablegram was received by the American Newspapers recently:**

*WIEN (Vienna), Feb. 2 (Special by Cable).—At the last Meeting of the* **WIEN SOCIETY OF PHYSICIANS,** *Prof.* **VON MOSETIG** *advanced a claim that he can cure Cancer by the Injection of a Solution of Pyoktanin, a new pigment manufactured at Darmstadt.*

*According to the statement of* **Prof. VON MOSETIG,** *the injection of this pigment closes the tumors and causes them to shrivel and disappear under the treatment.*

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***Substances marked thus (†) are NOT YET in the market. (Will be noticed again when obtainable.)***

## THE NEW ANTI-TUBERCULARS.

***Tuberculin-Koch** ("Koch's Anti-Tubercular Lymph"), some purely chemico-analytical investigations of which were noticed in this journal recently ([82]), is now rendered generally accessible to the American Drug-market in a form offering *absolute guarantee of genuineness.*

Messrs. MERCK & Co., of New York, recently announced to the Drug-trade that they had completed arrangements for the importation of this substance in the *original packages* of Dr. LIBBERTZ'S LABORATORY in Berlin, (designated by Prof. KOCH as the sole authorized place of production of his ANTI-TUBERCULAR LYMPH).

In connection with that announcement, the following *direct statement* by Dr. LIBBERTZ (to E. MERCK) may be of interest:

> **Permanency of Tuberculin-Koch.**—"TUBERCULIN has so far been *demonstrated to keep unaltered and with unimpaired efficacy* FOR SIX MONTHS; but the probabilities are that it will keep thus for years. Climatic and meteorologic *changes of temperature do not affect its properties or action.*"

---

***Potassium** (*or:* **Sodium**) **Cantharidate,—Liebreich's Tuberculosis Remedy.**—Reports by Atlantic cable to the *American lay press* are as follows:

BERLIN, Feb. 25, 1891.—Prof. LIEBREICH'S new method of treating *Tuberculosis* was described by the discoverer at a meeting of the BERLIN MEDICAL SOCIETY to-day. The substance used is CANTHARIDATE of POTASSIUM, which is administered in solution by systematic *injections under the skin.*

The remedy has been tried in cases of "lupus of the head" and tuberculosis of the larynx. It is administered in very small doses and appears to act in the affected tissues by exciting serous transudation.

Prof. LIEBREICH dwelt on the fact that there was no pain or disturbing accessory effect, and that the improvement was remarkable and rapid. Large doses, said the Professor, irritated the kidneys slightly, but not alarmingly.

Dr. HERMANN, upon the same occasion, spoke in praise of the *harmless nature* of the new remedy, saying that its effects were *easily borne* by the patients who had been subjected to its influence.

Dr. FRAENKEL said it had been noticed that the *bacilli were thinner and less in number* after the injections.

Dr. GUTTMANN described a case of tuberculosis which was accompanied by inflammation of the eyes, and which was *notably improving* by the new remedy.

Finally, Prof. LIEBREICH, replying to some criticisms which had been made upon the

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(82) MERCK'S BULLETIN, 1891; pp. 11 and 14.

new system of inoculation, said it was *not a specific* against tuberculosis, but he asserted that it *acted upon all the diseased tissues* having reduced power of resistance.

(Prof. L.'s usual **Hypodermic Doses** extended from 0.16 to 0.33, rarely 0.66, *cubic centimetres* of the ***Solution as described on page 44 of present Number,***—*which see!*)

## * PYOKTANIN, (Blue), IN CANCER, etc.

On the 30th of January last, Prof. von Mosetig-Moorhof ([83]) read a paper before the Royal Medical Association, at Vienna, Austria, on the **Treatment of Inoperable Malignant New-growths by means of the Blue Pyoktanin,**—which discourse created universal sensation. Following is the substance of it:

As long ago as eight years, Prof. von Mosetig tried staining with aniline colors those cell-elements which give rise to malignant neoplasms, with the idea that this might possibly destroy those cell-elements (cell-nuclei), thereby arresting the neoplastic process, or even causing it to recede. Although these experiments led to quite favorable direct results, the aniline pigment then used, even in small doses, was followed by such disagreeable, yea, alarming by-effects, that Prof. von Mosetig finally felt compelled to abandon the procedure.

After the discovery of Pyoktanin by Prof. Stilling, and its introduction into the markets by E. Merck, last year, Prof. von Mosetig resumed his method—called by him "*The Staining Method*"—of treating inoperable malignant neoplasms, by the aid of this *perfectly innocuous* agent. The following cases, as described by himself, illustrate his results:

(1.)—"A female, aged 66, so far run down that a speedy fatal termination seemed imminent. She had, in the middle of the lower jaw, a *Sarcoma*, larger than a man's fist, projecting far forward, and occupying the anterior half of the sublingual region. The lips could not be brought together; the mouth could not be closed; the saliva dribbled away continually; and the tongue was pressed up against the hard palate and forced backwards, obstructing the esophagus, so that the patient could neither speak nor take food,—not even liquid. She was painfully fed by means of the stomach-tube.

"The tumor was injected with Blue Pyoktanin 35 times in all. At first, 1:500 solution was used; later, one of 1:300; 3–6 grammes [¾–1½ fl.

(83) *Wiener Medizinische Presse*, 1891; No. 6.

drs.] per injection. The patient is now scarcely recognizable: she can close her mouth; the trickling of saliva is no longer noticeable; she eats without difficulty the full customary hospital allowance, has increased in weight, and is doing well. The tumor is reduced to about ⅓ of its former size, the floor of the buccal cavity is clear, and the tongue has regained its normal position. I have only now been placed in a position to ascertain that the new-growth had its origin within the inferior maxillary bone itself, because it is entirely surrounded by osseous walls. A part of the intra-ossal neoplasm is still present, but the parossal masses have disappeared entirely. The staining treatment is being continued."

(2.)—"A man, aged 58, prematurely old, came for treatment December 9, 1890.—He has a *Cysto-sarcoma* about and beneath the left sterno-clavicular articulation, which formerly encroached on part of the base and lowest fourth of the sterno-cleido-mastoid muscle, and on quite a large portion of the pectoralis major laterally. The horizontal diameter of the tumor measured 13 centimetres [5¼ inches]; the perpendicular diameter, 8 centimetres [3¼ inches]. Thus far, 12 injections have been made, each consisting of 6 grammes [1½ fl. drs.] of a 1 : 300 solution of BLUE PYOKTANIN. The tumor is at present essentially flattened, and all its dimensions are diminished; it now measures only 10 centimetres [4 inches] horizontally, and 6 [2½ inches] perpendicularly.

"While in the former case no rupture of the tumor nor any discharge of colored secretion supervened, the cystic cavities in the present case opened up in a sieve-like form,—discharging a blue fluid; the infiltrations in the muscles, on the other hand, are simply shriveling away. The patient can move his head much more freely than before, and feels fairly well. There was no fever during the treatment."

(3.)—"An extremely anemic lady, aged 60, with a villous growth in the bladder.—The new formation is very sanguineous, and the patient has suffered for years with intercurrent hematuria, more or less profuse,—probably the main cause of her anemia." (With the aid of the ramasseur, Prof. VON MOSETIG easily succeeded in extracting a villus, which was declared a *Papilloma.*) "The growth must be very extensive, as the eye of the catheter introduced almost always becomes occluded. The idea of operating on this extremely debilitated person cannot be entertained,—not for the present, at least. The patient was about to despair; she could not void her urine—

which was bloody, stinking, and replete with mucus and shreds of tissue—otherwise than by drops. There was no rest day or night, and towards evening there was fever regularly. She begged to be relieved by an operation, even if it should cost her life."

(Thus urged, Prof. von Mosetig tried injections of a 1 : 2000 solution of Blue Pyoktanin, 20 grammes [5 fl. dr.] of which were injected into the bladder by Jacques's method every other day, and allowed to remain. The patient experienced considerable relief, and expressed herself as being well satisfied with her condition, compared to that previously regnant.) "The ischuria has abated somewhat; the urine is still quite turbid and slimy but contains no blood."

(4-5.)—Two men with *Carcinoma of the glands of the neck* were cured to such an extent with 1 : 500 solutions of Blue Pyoktanin, that they asked to be dismissed—claiming ability to resume work.

(6.)—Prof. von Mosetig, in conclusion, reported on a male patient, 60 years of age, who had been under treatment since the middle of last August. He then bore a tough, firmly attached tumor, about as large as a man's head,—doubtlessly a *Sarcoma*,—which projected from the pelvic cavity into the abdominal cavity, with an inclination toward the right side; and, pushing the peritoneum before it, lay contiguous to the abdominal walls. The tumor was said to have been discovered in February, as an external swelling the size of a kidney, and to have been movable (which latter statement is, however, to be doubted). Under the irritating influence of the hot springs of Baden-Baden, the sarcoma grew in a few months to the size of a man's head. The tumor occasioned the greatest distress in the evacuation of the bowels, which could be effected only by artificial means, and then with difficulty. At the end of August, the bowels were completely obstructed, even intestinal gases could not be passed any longer; gradually, an extreme distention of the abdomen, colicky pains in the enormously dilated loops of the intestines,—which were engaged in lively peristalsis, as distinguishable through the abdominal walls,—and hiccough supervened. These alarming symptoms increased so much in severity, that Prof. von Mosetig found himself induced, even at a late hour in the evening of September 3d, to perform *colotomy*. Being aware that, in most cases of simple "pressure-ileus," the functional activity of the gut tends spontaneously to return to normal

after the discharge of the imprisoned gases and feces, Prof. VON MOSETIG here made an opening into the transverse colon of only about pea-size.

On the 5th day after the operation, some flatus was passed per anum, and on the 9th day, after the use of enemas, some clay-like, ropy feces. But now the growth of the tumor progressed at a truly terrifying rate. In the beginning of November, the sarcoma was almost twice as large as it was in August. Like a firm rock, it projected from the pelvic cavity up to the level of the navel, extending far beyond the median line towards the right, and outward as far as to a line connecting the last rib with the ilium. Defecation had become more difficult again, strangury had developed,—evidence of vesical compression.

The tumor now having ulcerated, above Poupart's ligament, in two places, Prof. VON MOSETIG suggested the *staining method of treatment* to the patient.—"Thus far, 15 injections, each consisting of 3 grammes [¾ fl. dr.] of a 1:500 solution of BLUE PYOKTANIN were made into the tumor. The result exceeds all expectations: the monster has been reduced almost to one-third of its former size; the bowels move spontaneously and regularly, as in health; the ulcers have nearly cicatrized; the strangury has diminished. The patient walks in the open air for hours, even in the coldest and most disagreeable of weather; he has resumed his usual business activity, attends and gives receptions;—in one word—he lives as he did when healthy."

Prof. VON MOSETIG ended his discourse with these remarks:

> "The cases which I have here partly exhibited to you and partly reported-on, are, of course, far from being cured; but *they are, certainly, quite materially improved, and their definite cure may be hoped for*,—at least, it is not precluded. But considering that these cases are, all of them, *noli-me-tangere* neoplasms, you will concede that even what has been attained thus far *is highly satisfactory*."

Prof. VON MOSETIG hitherto employed only 1:1000, 1:500, and 1:300 solutions of BLUE PYOKTANIN; but he believes that *much more concentrated, yea, saturated solutions might be used without injury*. All of his patients, so far, bore very large doses perfectly well. The injections must, of course, be made with the proper antiseptic precautions, and *with a constant aim at gradually impregnating the total mass of the neoplasm with the pigment.* Closed tumors do not disintegrate, they merely undergo a regressive metamorphosis, and shrink; open ones, on the other hand, secrete more profusely and evidently diminish in size more rapidly.

*To obtain prompt results, the staining of the tumors must be repeated frequently*,—say every 2d or 3d day. This is an easy task, as the patients do not protest against the repeated procedure;—on the contrary, they encourage the physician to resort to it.

The reading of the above paper drew forth the following

### Discussion : (84)

Prof. VON REUSS stated that, from his more recent experiments with BLUE PYOKTANIN in Ophthalmiatric uses, he had become more favorably impressed with it than ever. *Infiltrations* in the eye, if patiently treated with the pigment until *thoroughly stained*, are sure to be materially benefited.

Prof. LANG has employed BLUE PYOKTANIN locally as injection in *Gonorrhea* and *Cystitis*, and internally in *Pyelitis*. The patients bear relatively *large doses* well. The urine is colored rapidly,—an evidence that the diseased membrane is washed by the preparation.

Imperial Medicinal Councillor BILLROTH mentioned the experiments he made some years ago on inoperable neoplasms. He employed injections of Silver Nitrate, of preparations of Gold, of Chromic Acid, Carbolic Acid, Osmic Acid, Hydrogen Peroxide, Gastric Juice, etc.,—but all in vain. He does not doubt, however, that a remedy will be discovered which will cause malignant new-formations to disappear. In this view, he attaches *high interest* to Prof. VON MOSETIG'S report.

General Staff Surgeon I. NEUDÖRFER has been employing BLUE PYOKTANIN regularly for surgical dressings, since the publication of its discovery. He is, at present, using PYOKTANIN compresses in several cases of inoperable *Carcinoma*. One case is that of a lady, 60 years of age, with an ulcerated carcinoma of the breast. At first, lotions of PYOKTANIN were applied to the ulcers by compresses; later-on, PYOKTANIN in substance, mixed with talcum. Under this treatment, the neoplasm was diminished in size. (85)

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## THREE CONIUM ALKALOIDS.

1.—***Pseudo-conhydrine,**— $C_8H_{17}NO$,—*a new Alkaloid from Conium maculatum.*—E. MERCK recently succeeded in isolating this substance, which exists in very small proportion in the highest-boiling portions of CRUDE CONIINE, wherefrom it is obtained pure by fractional distillation *in vacuo*, and subsequent repeated recrystallization.

PSEUDO-CONHYDRINE crystallizes in needles; soluble in alcohol, in ether,

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(84) *Wiener Medizinische Presse*, 1891; No. 5.

(85) ***Pyoktanin*** has been described *in this journal* before, as a SURGICAL and OPHTHALMIATRICAL ANTISEPTIC principally,—in 1890: pp. 49, 99, 108, 111, 128, and 131; and in 1891: pp. 14, 17, and 27.

and in chloroform; melting at about 98° C [208.4 F]; and boiling, as near as has been determined, at 230-233° C [456-461.4 F],—some degrees higher than Conhydrine.

Prof. LADENBURG is at present engaged in a thorough investigation of PSEUDO-CONHYDRINE, to which he gave this name on account of its isomericity with Conhydrine,—as appears from the above formula, derived by him.

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2.—***Conhydrine,**—$C_8N_{17}NO$,—is a *Natural Base* contained besides CONIINE, in the seeds of *Conium maculatum*. Its action is *similar to that of Coniine, but somewhat weaker.* It forms lustrous white leaflets; difficultly soluble in water; easily so in ether and in alcohol.

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3.—***Coniine** (*Conicine, Cicutine*), **chemically pure, *Merck,*** —[FOR "PURE," *see* "MERCK'S INDEX," p. 39.]—$C_8H_{17}N$,—the *principal active substance of Conium maculatum* (Poison-hemlock; Spotted Hemlock),—is a colorless, limpid liquid, of penetrant odor.—It has *not before* been placed on the markets in a *degree of purity* equal to that of E. MERCK's preparation; as is shown by the absence of color from it, and its limpidity.

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## RARE OPIUM ALKALOIDS.

*Three such* (**Laudanine** [86], **Protopine** [87], and **Tritopine** [88]) were recently described in this journal, as having been *first prepared for the markets by* E. MERCK, of Darmstadt; *the existence* of the latter-named one—TRITOPINE—and the *method for its isolation*, having both been *discovered at* E. MERCK'S LABORATORIES.

—**Two more Rare Opium Derivatives** (COTARNINE and LAUDANOSINE) are described *below;* while the *Physiologic characterization* of one of the above-mentioned three (PROTOPINE) is also here added.

***Cotarnine,**—$C_{12}H_{13}NO_3.H_2O$,—a **Narcotic.**—COTARNINE is one of the *Artificial Opium-bases;* being formed, along with Opianic Acid, when Narcotine, in sulphurico-acidulated solution, is oxidized by manganese dioxide. COTARNINE is a yellowish crystalline powder; soluble in boiling water, in alcohol, and in ether; insoluble in potassa lye.

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(86) MERCK'S BULLETIN, 1890; p. 37.

(87) MERCK'S BULLETIN, 1890; p. 96.

(88) MERCK'S BULLETIN, 1891; p. 25.

According to BUCHHEIM and LOOS ([89]) a dose of 0.0075 gramme [1/8 grain] of COTARNINE, in frogs, produces *paralysis of the peripheral nerve terminations.*

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***Laudanosine**—$C_{21}H_{27}NO_4$ (*acc. to* HESSE)—is a *Natural Opium-alkaloid;* very easily soluble in alcohol and in ether; crystallizing from officinal benzin (petroleum ether) in fine white needles, mostly grouped in rosette form; melting at 89° C [192.2 F].

*Identity-tests*, according to E. KAUDER ([90]):

> When LAUDANOSINE is thrown into pure concentrated sulphuric acid, the latter at first remains colorless; on crushing the alkaloid, a rose-coloration takes place; which, on warming, changes to faint green, and, on evaporating the acid, into dark violet with a dingy reddish tinge. If the acid solution be diluted with water, or abandoned to draw water from the atmosphere, the color changes toward red-brown.

As shown by FALK ([91]), LAUDANOSINE is a **Spastic poison,**—the *lethal dose*, in rabbits, ranging between 0.07 and 0.08 grammes per kilogramme of animal [7–8 parts per 100,000].

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***Protopine,**—a **Narcotic; Muscular, Nerve, and Cerebral Poison.**—This OPIUM-ALKALOID, whose physical and chemical qualities were before described, *as above remarked*, has been *physiologically investigated* by ENGEL ([92]), with the following results:

1.—PROTOPINE, *in small doses*, given to frogs, acts as a *Narcotic*, similarly to most Opium-alkaloids.

2.—*In strong doses*, similarly given, it acts as a *Paralyzant* to the *Muscular* substance and peripheral *Nerve*-terminations.

3.—At the same time, the *Reflex excitability* is maintained under small and medium doses, but *suspended under large ones.*

4.—*In mammals*, PROTOPINE exercises an action similar to that of *Camphor* given *in toxic doses;* however, the effects are distinguished from those of Camphor by paralysis of the *Circulatory* organs.

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(89) HUSEMANN and HILGER'S "Pflanzenstoffe," p. 762.

(90) *Archiv der Pharmazie*, 1890; part 9.

(91) LEWINS' "Lehrbuch der Toxikologie," p. 364.

(92) *Archiv für Experimentelle Pathologie und Pharmakologie*, Vol. XXVII, 1890; pages 419-431.

## VEGETABLE DRUGS and GALENICS.

In *Volume III* (year 1890) of this journal (supplemented by one *additional* description in the present Volume), several interesting **New Botanical Drugs,** and useful *Galenic Preparations* from such, were described,—notably: CINERARIA MARITIMA, *Juice*, the reputed cataract remedy (page 150); JAMBUL, *Powder* or *Fluid Extract* (page 4), and *again* in the *present* Volume (page 9); JOHANNESIA PRINCEPS ("Andaassu"), *Seed* (page 96); MURURÉ (Bichetea officinalis), *Oil* (page 41); PAULLINIA PINNATA ("Timbo"), *Bark*, or Root-bark (page 96); SIEGESBECKIA ORIENTALIS ("Herbe de Flacq"), *Herb* (page 97); TACHIA GUIANENSIS ("Caferana"), *Root* (page 98).

*In addition hereto*, the following may prove of interest:

* **Bailahuen, Fluid Extract,**—from *Hysterionica Bailahuen*, indigenous to Chili,—as an **Intestinal** and **Gastric** remedy. D. Carvallo and E. Eisele ([93]) have administered this extract in Dysentery, Catarrhal Diarrhea, Cholera Nostras, and Indigestions, with *very good results*.

**Formula:**

| | | |
|---|---|---|
| FLUID EXTRACT BAILAHUEN..... | 5 grammes | [1½ fl. dr.] |
| Distilled Water..... | 170 " | [5¾ fl. oz.] |
| Syrup..... | 30 " | [6 fl. dr.] |

*One teaspoonful every two hours.*

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* **Collinsonia canadensis, Fluid Extract,**—a **Urinary remedy,**—is obtained from the Labiata "*Horse-balm*," indigenous to the United States.

According to HOCKIN ([94]) and SHOEMACKER ([95]), this Fluid Extract yields excellent curative effects in diseases of the *Uropoietic system;* such as Cystitis, Gravel, Gonorrhea, Leucorrhea. In gravel, especially, COLLINSONIA acts as a sedative to the spasms of the Ureters, the Urethra, and the Bladder; at the same time *augmenting the urinary secretion*, and thus favoring the expulsion of the cystic calculi.

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* **Grindelia robusta, Tincture,**—prepared from a Compositea indigenous to the United States,—is used principally in **Respiratory affections;** as, for instance, in Bronchitis and Asthma; also in Pertussis.

*Dosage* ([96]):—30–40 drops several times daily.

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(93) *Boletin de Medicina*, 1889; p. 498.

(94) *British Medical Journal*, 1888; p. 1415.

(95) *Nouveaux Remèdes*, 1888; p. 197.

(96) DUJARDIN-BEAUMETZ and EGASSE, "Plantes médicinales;" p. 333.

***Hashishin,** an agreeable **Stomachic** when in FATTY DILUTION, as below stated.—HASHISHIN is an EXTRACT of *Cannabis indica*, prepared with 90% Alcohol and washed with water.

GERMAIN-SÉE ([97]) commends very highly in Gastric Neuroses and Dyspepsia, a certain preparation from HASHISHIN, which he has found to *alleviate the pain and restore the appetite* in the ailments named. The preparation, as he recommends it, is obtained by dissolving 5 parts of HASHISHIN in 95 of BUTTER. This solution is called **"Fatty Extract of Cannabis Indica."** It contains the active principle of the plant in a state of *very fine subdivision;* and hence is efficacious even in the very small dose indicated below.

*Dosage* of the "FATTY EXTRACT of CANNABIS INDICA":—0.05 gramme [¾ grain] *per day*.—Greater doses—as of 1½ grains for instance—produce *Cannabis intoxication*.—(In the place of butter, it might be quite advantageous to use a more stable excipient; such as, for instance, CACAO-BUTTER.)

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***Naregamia alata, Fluid Extract** (*or:* **Tincture**),—from an East Indian *Meliacea*,— has been found a good remedy in affections of the *Respiratory* organs,—by SCHÖNGUT ([98]). He lauds it as an excellent **Expectorant**, especially in those cases in which similar palliatives are ill borne.

**Formula:**

| | | |
|---|---|---|
| NAREGAMIA, FLUID EXTRACT (*or:* TINCTURE) | 1–3 grammes | [15–45 min.] |
| Cherry-laurel Water | 10–20 " | [2½–5 fl. dr.] |

*Take ten drops each hour.*

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***Simulo, Tincture,**—[*See* "MERCK'S INDEX," p. 146.]—discussed in this journal previously ([99]), has recently been lauded by POULET ([100]) in *acute and sub-acute* **Salpingo-Oöphoritis.** When used in the incipient stages of the inflammatory process, this remedy has the power of *cutting short the inflammation* and *preventing the formation of pus*, while the accessory symptoms and the fever are favorably affected.

*Dosage* (POULET'S):—3–4 grammes [¾–1¼ fl. dr.] daily.

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(97) *Deutsche Medizinische Wochenschrift*, 1890; p. 679.

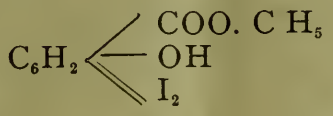
(98) *Centralblatt für die Gesammte Therapie*, 1890; p. 129.

(99) MERCK'S BULLETIN, 1888; p. 22;—1889; p. 12.

(100) *Bulletin de Thérapie*, 1890; No. 20.

## SYNTHETIC CARBON-COMPOUNDS.

***Di-Iodo-Salol** (*Phenyl di-Iodo-salicylate*)—




—is an odorless, insipid solid; insoluble in water; melting at 133° C [271.4 F].

It has hardly been used in therapeutical experiments so far; still, a favorable action in **Dermatic ailments** is theoretically presumable.

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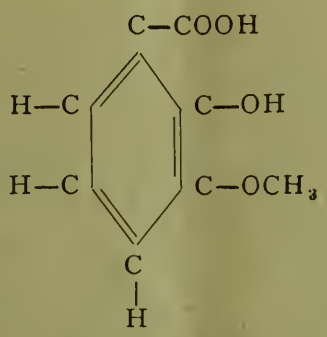
***Guaiacol-carboxylic Acid:—**




As shown by the above formule, GUAIACOL-CARBOXYLIC ACID is related to Guaiacol as Salicylic Acid is to Phenol. It crystallizes from water with one molecule of $H_2O$; is readily soluble in hot water and in alcohol, less readily so in cold water. In the anhydrous state, it melts at 152° C [305.6 F].

GUAIACOL-CARBOXYLIC ACID is an **Antiseptic.** It has not yet been experimented upon therapeutically.

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***Iso-Cocaine** (*Ethyl-ether of Benzoyl-iso-ecgonine*)—melting at 44° C [111.2 F]—is a **New Local Anesthetic.**—ISO-COCAINE is reported ([101]) to be *superior to* COCAINE in *the greater rapidity* with which it produces anesthesia.

It is *not applicable*, however, *for Ophthalmology*, because its locally irritating effect on the eye is a far more energetic one than that of COCAINE.

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(101) By A. HAAS, in: *Süddeutsche Apotheker-Zeitung.* 1890; p. 202.

***Tetronal** (*Di-ethyl-sulphone-di-ethyl-methane*)—

$$\begin{matrix} C_2H_5 \\ C_2H_5 \end{matrix} > C < \begin{matrix} SO_2C_2H_5 \\ SO_2C_2H_5 \end{matrix}$$

***Trional** (*Di-ethyl-sulphone-methyl-ethyl-methane*)—

$$\begin{matrix} CH_3 \\ C_2H_5 \end{matrix} > C < \begin{matrix} SO_2C_2H_5 \\ SO_2C_2H_5 \end{matrix}$$

**New Hypnotics.**

—TETRONAL is in lustrous tabulæ or leaflets; readily soluble in alcohol, fairly so in ether, poorly in water; melting at about 85° C [185 F].

—TRIONAL is in lustrous tabulæ; poorly soluble in water, readily so in alcohol and in ether; melting at 76° C [168.8 F].

As will be seen from the formules of the above two substances, *they are closely allied, in their chemical structure, to* SULPHONAL (Di ethyl-sulphone-di-methyl-methane)—

$$\begin{matrix} CH_3 \\ CH_3 \end{matrix} > C < \begin{matrix} SO_2C_2H_5 \\ SO_2C_2H_5 \end{matrix}$$

The therapeutic researches, specially instituted on these new remedies by W. BARTH and TH. RUMPEL ([102]), have shown both TETRONAL and TRIONAL to possess *hypnotic action very nearly equal to that of* SULPHONAL; while, in certain nervous conditions, *not amenable to the influences of* SULPHONAL, favorable effects have been obtained from both TRIONAL and TETRONAL.

*Dosage:*—The largest *daily* dose so far tried of TRIONAL was of 4 grammes [60 grains], divided into 4 *singles* of 1 gramme [15 grains] each; the largest *single* dose was of 3 grammes [45 grains].—TETRONAL is dosed the same as SULPHONAL, which latter was described in a previous issue of this journal ([103]).

## Compounds Not Described Therapeutically.

*** Adipinic Acid,**—$CO_2H.(CH_2)_4.CO_2H$,—an oxidation-product of animal and vegetable fats,—is in colorless leaflets, readily soluble in alcohol and in ether, difficultly so in cold water.

*** Camphoronic Acid,**—$C_9H_{14}O_6$, — an oxidation-product of Camphoric Acid,—occurs in white crystals; *easily soluble* in water and in hydrated ether.

(102) *Deutsche Medizinische Wochenschrift*, 1890; No. 32.

(103) MERCK'S BULLETIN, 1888; p. 25.

* **Proto-catechuic Acid,** — (*asymmetric ortho*-DI-OXY-BENZOIC ACID);— $C_7H_6O_4 + H_2O$;—[$CO_2H$; OH; OH = 1; 3; 4]. — Monoclinic needles, melting at about 200° C [392 F]; readily soluble in *hot* water and in alcohol, slightly soluble in ether, and insoluble in benzene.

* **Aluminium and Ammonium, Chloride,** — $Al_2Cl_6.6NH_4Cl + 12H_2O$.—White, very hygroscopic powder, of medium grain.

* **Ammonium Oleate,** (Ammonia Soap),—$NH_4.C_{18}H_{33}O_2$.—Colorless, or slightly yellow, translucent jelly, soluble in alcohol and in ether; melting to a yellowish liquid at a moderate warmth.

* **Aniline Hydrobromate,** — $C_6H_5NH_2.HBr$. — White crystals, *soluble* in water and in alcohol.

* **Butyl-chloral (Tri-chlor-butyr-aldehyd),** — $C_4H_5Cl_3O$. — Colorless liquid, which attracts water very energetically. It boils at about 164° C [327.2 F]; specific gravity 1.37. (The **Hydrate** of this substance—often denoted by the *false name* of "CROTON-CHORAL HYDRATE"—was *described previously* ([104]) as a FACIAL AND DENTAL ANODYNE.

* **Cerium Citrate.**—White powder, insoluble in water.

* **Gold and Sodium, Bromide,**—$AuBr_3.NaBr$,—forms very hygroscopic, red crystals.

* **Silver Bromate,**—$AgBrO_3$.—White crystals, *slightly soluble* in water.

* **Tri-Brom-Benzene,** vicinal, — ($C_6H_3Br_3$;—[Br = 1 : 2 : 3]).— Colorless crystals, melting at 87° C [188.6 F]; insoluble in water, easily soluble in ether and chloroform, less so in alcohol.

# SELECTIONS.

## ACCIDENTS WITH COCAINE, AND PRECAUTIONS; ETC. ([105])

DR. DELBOSC has published in the *Medical Record*, June 7th, 1890, a statistical and clinical report on the accidents produced by this substance. He collected the histories published of accidents, from which he has been able to establish that up to the present time, only five deaths have occurred after the use of COCAINE. This proportion would evidently go against the method if only the bare facts be accepted without interpreting them. From the various observations published, it would appear that death resulted from the enormous doses that were administered, varying from about eleven grains to

(104) MERCK'S BULLETIN, 1889; p. 22.

(105) *Boston Medical and Surgical Journal*, 1890; Nov. 20.

double that quantity. According to Dr. DELBOSC, COCAINE may be employed at the maximum dose of three grains, although he would not advise such a dose ordinarily, as beyond that quantity serious accidents occur.

To avoid rapidity of absorption, solutions too concentrated should never be employed. A two-per-cent solution is sufficiently strong. It is not necessary, in order to obtain anesthesia, to push the needle into the muscles or the subcutaneous cellular tissue, but into the thickness of the dermis. In spite of all precautions accidents may occur, and for them nitrite of amyl, injections of ether and caffeine are indicated. (106)

Prof. WÖLFLER (in *Schmidt's Jahrbücher*, No. 7, 1889) points out that the causes in which unpleasant results have followed the injection of COCAINE are chiefly those in which the drug has been employed about the head. It seems that it is more dangerous when injected in proximity to the brain. While one may use sixteen minims of a five-per-cent solution in all other parts of the body, for injections about the head the same amount of a two-per-cent solution is sufficient.

* * * To lessen the irritation caused by a cicatrix rubbing over a corneal ulcer, Dr. S. MITCHELL employed a solution of COCAINE in *Castor-oil;* this relieved the pain and permitted the ulcer to heal, after other solutions had been tried in vain.

## THE AVOIDANCE OF COCAINE TOXICITY. (107)

HUMMER, of Geneva, has suggested the use of ESMARCH'S bandage as a preliminary measure to injecting COCAINE into the tissues, when local anesthesia for an operation is required. By this means, he states, absorption of the drug is prevented, and the risk of toxic effects much diminished, while the local influence is prolonged and increased. HUMMER also states that it is a good plan to let the wound, in an operation in which COCAINE has been used, bleed a little before applying the dressing, in order that as much as possible of the solution shall escape. Bloodless operations are always dangerous, because there are no means by which the solution can escape from the tissues. The author carries out his plan as follows: He places an ESMARCH'S elastic tourniquet at the base of the finger, for example; then, with a PRAVAZ syringe, he injects at different points around the field of operation some drops of a ten-per-cent COCAINE solution, taking care by compressing the puncture apertures to prevent the escape of the solution. After the lapse of eight minutes the operation can be commenced. In adults, a dose of five centigrammes should not be exceeded; while in children of ten years, one centigramme would be the maximum dose.

## LACTIC ACID IN DIARRHEA. (108)

At a recent meeting of the SOCIÉTÉ MÉDICALE DES HÔPITAUX, Prof. HAYEM communicated a note on the above subject. Among adults he has had no failures. He

(106) *See*, also: MERCK'S BULLETIN, 1890; p. 86:—"The Prevention of the Toxic Effect of Cocaine."

(107) *Medical Press and Circular.*

(108) Paris Correspondence of *Medical Record.*

recommends the medicament to be prescribed in doses of from 10 to 15 grammes, in the form of lemonade, as follows: LACTIC ACID, from 10 to 15 grammes; Syrup of Mulberry, 200 grammes; Water, 500 grammes; to be drank by half a glass at a time between meals. LACTIC ACID acts very well in the *diarrhea of typhics* and in *sporadic diarrhea*. Prof. HAYEM states that he would not hesitate to recommend it as a prophylactic and as a curative against *epidemic cholera*.

---

## STYRONE IN CHRONIC PURULENT OTITIS MEDIA. (109)

Dr. CHELTSOFF (in *Bolnitchnaya Gazeta Botkina*, May 9, 1890) ascribes great value to STYRONE in the treatment of Chronic Middle-ear disease, which does not yield to the most energetic treatment with other remedies. He made special observations in eight cases and obtained brilliant results.

In one case of Otitis Media of three years' standing, the ear was syringed with a solution as follows:

STYRONE ..... ℈i
Alcohol ..... f℥i

One part of the above to twenty parts of water. The purulent discharge and inflammatory condition of the ear disappeared. The patient was cured and discharged from the hospital within twelve days from the beginning of the above treatment.

He had another patient, twenty-one years old, with purulent Otitis Media since childhood; an acute exacerbation with extreme shooting pain in the ear made the patient call for treatment. Syringing with water for several days did absolutely no good. But when twenty parts of the solution of STYRONE to two hundred parts of water were used to syringe the ear with, three times a day, the pain, swelling, and tinnitus aurium were relieved within two days. The patient asked for his discharge from the hospital after the fifth day. On the last examination the swelling in the auditory canal was absent, and the middle-ear was free from all inflammatory product and had a normal appearance. During the treatment with STYRONE the author tried in the above cases 1:8000 of bichloride-of-mercury solution as a substitute; then the purulent discharge appeared the next day in large amount, and disappeared the following day after the use of STYRONE was resumed.

There are two forms of STYRONE, the crystal and the liquid. Both have the same virtues, the liquid being the least expensive.

Dr. CHELTSOFF used an alcoholic solution, and, in order to ascertain that it was not the alcohol that was so beneficial in the purulent cases, he syringed the ear with alcohol during treatment, which was followed by increased discharge from the ear. The STYRONE used after it, however, made the pus disappear permanently. When there was much pain it was immediately relieved by STYRONE, and the latter was an excellent analgetic in all his cases.

---

(109) *Medical and Surgical Reporter.*

***Postscript to* "Liebreich's Tuberculosis Remedy,"** (**Potassium Cantharidate**),—as noticed on pages 29 to 30 of *present Number:*

Prof. LIEBREICH ([110]) describes his way of preparing the **Potassium Cantharidate Hypodermic Solution** as follows:

CANTHARIDIN, cryst.....0.2 gramme [3 grains];
Potassium Hydroxide, (*absolutely pure*).....0.4 gramme [6 grains];
Water [cold].....20 grammes [5¼ fl.dr.];

*Bring to clear solution* over *water-bath;* then *add*, very slowly and cautiously,—*still keeping* water-bath heat *applied:*

Water [cold].....*enough to make* (when cooled): 1 litre [32⅞ fl. oz.,—*proportionate* to above *grain*-equivalents].

—The process for a **Sodium-Cantharidate** Hypodermic Solution is *the same* as above, *with the exception* that 0.3 gramme [4½ grains] SODIUM HYDROXIDE is substituted for the 0.4 gramme [6 grains] of Potassium Hydroxide in the above formule.

# GATHERED FORMULAS.

## 5.—A HEMOSTATIC in Congestive Dysmenorrhea.—[H. FRITSCH ([111]).]

—Pills.—

Extract Hydrastis,
Extract Cotton-root,
Ergotin-*Denzel*,
} .....each:—3 grammes [46 grains].

Divide into 100 pills!—*One pill three times a day.*

## 6.—RESORCIN for Antiseptic Tooth-Powder.—[VIGIER ([112]).]

| | | | | |
|---|---|---|---|---|
| RESORCIN | 20 | parts | *by weight.* | |
| Salol | 40 | " | " | " |
| Powdered Orris-root | 80 | " | " | " |
| Powdered Chalk | 400 | " | " | " |
| Carmine, No. 40 | 3 | " | " | " |
| Oil Peppermint | *sufficient to perfume.* | | | |

([110]) *Therapeutische Monatshefte*, 1891; (March No.), p. 176.

([111]) *Therapeutische Monatshefte*, 1891; p. 31.

([112]) *Gazette Hebdomadaire de Médecine et de Chirurgie*, 1890; March.

TECHNOLOGICAL MUSEUM, SYDNEY, (Australia).

MEMO. FROM THE

CURATOR

*13th Oct., 1890.* TO

*E. MERCK,*

*71 & 73 William St.,*

*Dear Sir:* *New York, U. S. A.*

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*Yours truly,*

*J. H. MAIDEN,*

[F. L. S., F. C. S., etc.]

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Prof. O. Liebreich's *Original Paper* on the action of these Salts,—developing the theory thereof, as follows:—

*Blood-serum* a Natural Bactericide; *Serous (without* Cellular!) *Exudation* from Capillaries a characteristic effect of Cantharidin in proper dose; hence, morbid *Kidney-irritation not* a necessary concomitant; Hypodermic administration *evades Gastric irritation;* Alkaline Salts chosen for *solubility;* Special Formula [as in *March* Number!]:—*excess of Alkali*, as much as needed for permanence of dilution,—but *no more*, to avoid local irritation!..... 45

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# THE NEW ANTI-TUBERCULARS.

## I.—LIEBREICH'S CANTHARIDATES.——II.—KOCH'S TUBERCULIN.

—[Supplementary to same subjects in *March Number*.]—

**The Cantharidates,**—according to Liebreich.—Both:

***Solution Potassium Cantharidate, Merck,**
and
***Solution Sodium Cantharidate, Merck,**
} —according to Liebreich,—

have been placed on the *American market, in the precise composition and strength* as directed **for immediate hypodermatic use** by Prof. Dr. OSCAR LIEBREICH in his discourse to the BERLIN MEDICAL SOCIETY, on Feb. 25, 1891.

The reasons why these SOLUTIONS have thus been made articles of Drug commerce, are stated as follows in a circular, recently issued by MERCK & Co., of New York:

> "The *exact and successful execution* of Prof. Liebreich's directions involving a somewhat circumstantial process, not at every physician's command,—and the proper care required for it not being obtainable with certainty at all places,---it has been thought advisable to place upon the market the above READY-MADE SOLUTIONS, *guaranteed to be in perfect accordance with the Liebreich formulas.*"

**Prof. O. Liebreich's Original Paper** on the action of POTASSIUM *or* SODIUM CANTHARIDATE *in Tuberculosis*, as read before the BERLIN MEDICAL SOCIETY, February 25th, 1891, and an outline report of which has already been given ([113]), is here reproduced in all its essential points, on the basis of LIEBREICH'S *own version* ([114]):—

CANTHARIDIN—the active principle of *Spanish Flies*—was first isolated by ROBIQUET in 1812. It forms small colorless and odorless crystals; almost insoluble in water, slightly soluble in alcohol, readily so in chloroform and in ether.

It has been employed subcutaneously in Neuralgia, in doses of 0.004–0.01 gramme [$\frac{1}{16}$–$\frac{1}{6}$ grain]. Internally it has been recommended in doses of 0.001 gramme [$\frac{1}{64}$ grain], three or four times daily.

(113) MERCK'S BULLETIN, 1891; pages 29 *and* 44 (*see Postscript!*).

(114) *Therapeutische Monatshefte*, 1891; No. 3.

Attention having been directed to the toxic qualities of CANTHARIDIN, and especially to its irritating action on the *kidneys* and genito-urinary apparatus, by CORNIL, IDA ELIASCHOFF, VON AUFRECHT and others, the remedy was subsequently abandoned.

Thus far the lethal results obtained in physiological experiments with CANTHARIDIN have always been ascribed to *nephritis*. However, any one can satisfy himself that death in a rabbit from a dose of CANTHARIDIN *only just sufficient* to kill, results from the presence of (purely serous, not spontaneously coagulable) *exudation in the lungs*, whereby respiration is impeded, —*not from nephritis*.

Characteristic of CANTHARIDIN is the property of causing **Exudation of Serum** from the capillaries, not only of the kidneys, but also of the lungs and other organs, *without influencing* either the action of the heart or the blood-pressure, and *without* producing hyperemia or *extravasation of blood*. Only after extremely *large toxic doses*, however, does *cellular* exudation survene.

The above-characterized general tendency of CANTHARIDIN, to produce serous exudation by irritating the capillaries, is *more forcible when the latter are in an abnormal condition. This consideration* it was, that led to a series of experiments which finally culminated in the results below stated.

CANTHARIDIN, in these experiments, appeared unsuited for administration *per os;* because, as with Cantharides themselves, symptoms of gastro-intestinal irritation would obscure the true and characteristic action of the medicament. Its insolubility in water, again, formed an obstacle to its *subcutaneous* employment. CORNIL'S statement that CANTHARIDIN *in solution with Caustic Potassa* produced such suppuration, when injected hypodermically, that he believed his observations on nephritis to have been influenced by this accessory effect, was far from encouraging. It was proved, however, that the suppurative effect in the subcutaneous areolar tissue, in the experiments of CORNIL and others, was *not due to the* CANTHARIDIN, as might readily be suspected, but to the *excess of Potassa* used. Consequently the lecturer most carefully prepared a solution of CANTHARIDIN, by the aid of the *minimum* quantity of CAUSTIC POTASSA or CAUSTIC SODA necessary to dissolve the medicament, and *hold it permanently* in solution, in strength adapted to hypodermatic administration. This solution, being of proper dilution, when injected subcutaneously in animals, *did not produce any ill effect*.

Thus was obtained a preparation of CANTHARIDIN suitable for the same use in man, the dose of which *could be increased* steadily as long as no albumin or blood appeared in the urine.

Inasmuch as experience has proved that *no permanent injury to health* follows the proper internal use of Cantharides, *the dose of* CANTHARIDIN *may be augmented*—under cautious restrictions—*without danger*.

Prof. LIEBREICH began with a dose of the solution representing $\frac{1}{50}$ milligramme [$\frac{1}{3000}$ grain] of CANTHARIDIN (which favorably affected—notwithstanding its minuteness—the expectoration, both in a case of esophageal tumor and in one of tuberculosis). The injections were *painless; no redness*, no greater *sensitiveness* to touch, noticeable at the site of puncture the following day, than is usually observed after hypodermic injections of Morphine.

This dose was, in subsequent cases, very slowly and cautiously increased until it represented as high as 6 decimilligrammes [$\frac{1}{100}$ grain] of CANTHARIDIN. The latter dose invariably caused a burning sensation during micturition the following day, which promptly disappeared, however, after the administration of five minims of Tincture of Opium. Six decimilligrammes is therefore to be regarded as the *maximum hypodermatic dose* of CANTHARIDIN. In a case of Pulmonary Tuberculosis, complicated with Laryngeal Tuberculosis, an improvement in the voice was perceptible as early as on the following day.

The Professor regarded affections of *visible* mucous membranes, particularly of the larynx, best adapted for testing the action of the remedy, and consequently asked Dr. HEYMANN to kindly turn all suitable cases under his charge over to him. Prof. L. also had the benefit of the experiences of Prof. B. FRÄNKEL, Director of the UNIVERSITY POLYCLINIC, and of Staff-Surgeon LANDGRAF,—both of whom made a great number of experiments with the solution of POTASSIUM CANTHARIDATE, simultaneously with his own,—the results proving, *beyond doubt*, the *promptly curative* influence of the remedy. However, further clinical observation is held to be necessary, to determine the limits of its efficacy and utility.

As regards the mode of employment, Prof. L. injects, with a PRAVAZ syringe, 1 cubic centimeter [16 minims]—more or less, according to the patient's constitution—of the POTASSIUM CANTHARIDATE SOLUTION, made as directed below, and containing 2 decimilligrammes of CANTHARIDIN, into the patient's back,—*after* taking the usual precautions, of course, to disinfect the site of puncture as well as the syringe. The patients are allowed

to continue in their occupations. In one case of Laryngeal Tuberculosis, the Professor even *permitted smoking, without thereby arresting the healing process.* Neither any congestion of the affected part nor febrile phenomena resulted from the injections; which were, however, *not repeated more frequently than every other day.*

*The urine and the bowels must be closely watched.* If a burning sensation in the urethra, or a diarrhea, survene, treatment should at once be suspended; a few drops of Tincture of Opium, internally, will suffice for a prompt suppression of the former symptom. Whenever the injections are resumed in such cases, the initial doses *should be reduced to one-half* of those formerly employed. Altogether, it is, as yet, a question to be settled by further experience, whether the dose, as indicated above, should not be *reserved for special cases,*—being *reduced in ordinary practice to one-half or even one-quarter* of the quantity stated.

It has been proved that not only in Laryngeal Tuberculosis have cures been thus effected, but also in Chronic Catarrhal Swelling of the Vocal Cords; these, and other favorable results heretofore obtained with Cantharideal preparations, form encouraging indications for the subcutaneous employment of POTASSIUM CANTHARIDATE *in other affections.* The *extraordinarily prompt effect* which the remedy has on tuberculous ulcers of the larynx may be explained in two ways: either the exudation of serum on the surface of the ulcers so nourishes the fixed tissue-cells that they effect a *cure by normal proliferation, in spite* of the presence of bacteria; or, the *serous exudation renders the bacteria innocuous.*

BUCHNER has shown by experiments on rabbits and dogs, and STERN by experiments on man, that *blood-serum possesses the power of destroying bacteria.* Consequently the exudation of blood-serum induced by POTASSIUM CANTHARIDATE is not to be regarded merely as a secretion incidental to the healing-process, but as *a potent agent in destroying the bacteria.*

If, therefore, serum can be used as the direct instrument for effecting a cure by destroying bacteria, we are enabled to bring about, by means of CANTHARIDIN, the same result which has been aimed-at by means of serum transfusions; but the effect naturally must be *more striking* with the CANTHARIDIN treatment, because in the case of mere transfusion there is *no special motor* capable of directing an increased flow of transudation *to the affected spot!* In CANTHARIDIN, on the contrary, such a desirable "motor" *appears to have been provided.*

## Preparation of the Cantharidin Solutions.

In making ALKALINE SOLUTIONS OF CANTHARIDIN, it was found that the quantity of alkali *necessary, theoretically*, to convert the CANTHARIDIN into a Cantharidate was *not sufficient to retain the* CANTHARIDIN *permanently in solution.*

To obtain a solution which *will remain clear* when diluted and cooled, *twice as much* Potassium Hydrate as CANTHARIDIN,—or one and a half times as much Sodium Hydrate as CANTHARIDIN,—is necessary, as was determined by a large number of experiments. The alkali must be *pure, dry*, and *free from Carbonic Acid.*

—(**For Formula**, and method of proceeding therewith, see "MERCK'S BULLETIN," March, 1891,—page 44!)

[CANTHARIDIN has the empiric formula—$C_{10}H_{12}O_4$—; and CANTHARIDIC ACID,—$C_{10}H_{14}O_5$—(which has thus far been resolved into:—$C_8H_{13}O_2$-CO-$CO_2H$). According to DRAGENDORFF and MASING ([115]), CANTHARIDIC ACID is bibasic, and forms a neutral salt with Potassa, by substitution, (the CANTHARIDIN, as employed in LIEBREICH'S formula, being first converted into the Acid by the addition of $H_2O$, under the simultaneous influence of heat and contact with the aqueous solution of Alkali),—as shown in the following equations:—

(I.) $C_{10}H_{12}O_4 + H_2O = C_{10}H_{14}O_5$.

(II.) $C_{10}H_{14}O_5 + 2\,KHO = C_{10}H_{12}K_2O_5 + H_2O$ (=*water of crystallization*), . . . + *aq.* (=*water set free again*).

According to GANSWINDT ([116]), however, *the second molecule* of water evolved in equation II, as above, and there represented as being set free, is *not liberated*,—the salt crystallizing with *two molecules* of crystal-water, thus: $C_{10}H_{12}K_2O_5 + 2\,H_2O$.]

---

* **Tuberculin-Koch,**—Directions for Use;—*as authentically published* by PROFESSOR KOCH'S LABORATORY in Berlin ([117]):—

TUBERCULIN-KOCH is now obtainable in the Drug-trade, in *original bottles*, [as recently announced in this journal ([118])].

For adults, the *maximum dose for the first injection*, in all UNDOUBTED cases of Tuberculosis, is 0.001 cubic centimetre [$\frac{1}{64}$ minim]; for children, $\frac{1}{2}$-$\frac{1}{10}$ as much—in proportion to age.

At the outset, the injections must *not be repeated at shorter intervals* than a day. The dose is at first increased by 0.001 ccm. [$\frac{1}{64}$ minim] until 0.005 ccm. [$\frac{1}{12}$ minim] is reached; it may then be increased by 0.002

---

(115) *Zeitschrift für Chemie*, 1868; p. 308;—and 1872; p. 841.

(116) *Pharmazeutische Centralhalle*, 1891; p. 141.

(117) *Circular signed by* Dr. A. LIBBERTZ (Prof. KOCH'S Delegate for *Tuberculin*).

(118) MERCK'S BULLETIN, 1891; p. 29.

ccm. [$\frac{1}{32}$ minim] until 0.01 ccm. [$\frac{1}{6}$ minim] is reached, when it may be increased more rapidly, according to the behavior of the case. As a rule, the dose *should not be increased* beyond 0.1 ccm. [1½ minims].

As a DILUENT, a 0.5% solution of Carbolic Acid is generally used; a stronger carbolized solution may be employed, however.

TUBERCULIN is *diluted for use* in the following manner: first, a 10% solution is prepared by adding 9 cubic centimetres of a ½% solution of Carbolic Acid to 1 cubic centimetre [16 minims] of TUBERCULIN; a 1% solution of TUBERCULIN is then prepared from this 10% solution, in the same manner.

*A larger quantity of the solution should not be prepared* than what is required for a few days' use; *nor should any solution be used if it has become turbid or hazy.*

The patients' temperatures should be taken every morning, noon, and evening for a few days *before beginning the treatment;* a careful physical examination of the thoracic organs and larynx should be made; the sputa,—and, in cases attended with diarrhea, the stools,—*should be examined for tubercular bacilli.*

The injections should be made as *early in the morning* as possible, after which the temperature should be taken every 3 hours. Should the temperature rise to 39° C [102.2 F] in consequence of the injection, the following doses should not be increased, but continued the same until the temperature ceases to rise beyond 38° C [100.4 F].

When an elevated temperature prevails for some considerable time, *the injections must be suspended* until the temperature has dropped back to 38° C [100 4 F] *at most.*

In *doubtful* cases,—where the diagnosis is questionable,—also in tubercular affections *of recent origin*,—as, for instance, Catarrh of one apex of the Lungs, Articular Tuberculosis, Lupus of slight extension, etc., 0.005 ccm. [$\frac{1}{12}$ minim] may be employed as the initial dose, which—*if no reaction takes place*—may be increased to 0.01 ccm. [$\frac{1}{6}$ minim] and even to 0.02 ccm. [$\frac{1}{3}$ minim].

*Special caution* must be observed in all cases of *advanced* Pulmonary Tuberculosis, Laryngeal Tuberculosis, *extensive* Facial Lupus (on account of frequent liability to cerebral symptoms), Intestinal Tuberculosis (to evade perforation), Cerebral Tuberculosis; as well as in all complications with Cardiac Affections, Diabetes, etc.

The remedy should be discontinued whenever Hemoptysis or other serious symptoms follow its use.

The sputa should be examined about once a week. It is also advisable to weigh the patient at regular intervals.

The hypodermic syringe should be accurately gauged; and its disinfection with absolute alcohol *before* and *after* use is recommended.

---

## CONVENIENT URINE-TESTS.

Among the chemico-pathognostic examinations of URINE, none are of greater importance than those conducted with a view to ascertain the presence, and estimate the quantity, of SACCHARINE and of ALBUMINOUS excretions contained therein.

A *Tabular survey* of all the best-valued **Urine-Sugar Tests** (13 in number),—added to an exhaustive discussion of the "PHENYL-HYDRAZINE method," as being *the best* among them,—was published in this journal last year ([119]).

The various established **Urine-Albumin Tests** (by Heat and Nitric or Acetic acids; by Potassium ferrocyanide; by Tannin; by Meta-phosphoric acid; by Picric acid; by Alcohol; etc.) are supposed to be well enough known to need no tabulation here, for *special comparison with one another;*—hence, the one most usually employed in this country by physicians—the *Heat-and-Nitric-Acid method*—was selected by Dr. HEYWOOD, of New York, as the principal object of comparison by which to determine the virtues of a *New Method* investigated by him, and on which he recently reported in this journal ([120]).

The method described by Dr. HEYWOOD, as above referred-to, makes use of *but one reagent* (TRI-CHLOR-ACETIC ACID,—*without heat!*); and it is on the *great convenience and universal applicability* of this method (requiring *no apparatus nor materials* whatever, besides a clear glass vessel and a supply of the Acid Solution)—added to its accuracy and sensitiveness—that he bases his claim for it as being an IDEAL BEDSIDE TEST.

—Below will be found *a second* "TRI-CHLOR-ACETIC method," by another author, differing from that developed by Dr. HEYWOOD, in the *crystalline* form of the ACID *being used directly* instead of an aqueous Solution.

Added to this, *still another new method* for URINE-ALBUMIN detection, by a third author, is here given,—employing SULPHO-SALICYLIC ACID *for its sole reagent.*

***Tri-chlor-acetic Acid** as a **Urine-Albumin Test**—[*Second Method*].—By A. RAABE ([121]). About one cubic centimetre [16 minims] of urine, previously *filtered*, is poured into a narrow test-tube, and a small crystal of TRI-CHLOR-ACETIC ACID dropped into it; it is then set aside for a

(119) MERCK'S BULLETIN, 1890; page 89.

(120) MERCK'S BULLETIN, 1891; page 23.

(121) *Pharmazeutische Zeitschrift für Russland*, 1881; p. 445.

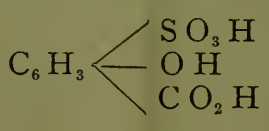
while, *without shaking*. The acid soon dissolves in the bottom of the test-tube, and at the plane of contact of the two layers of fluid a distinctly visible and *sharply defined turbid zone* forms, if Albumin be present. Even the slightest quantity of Albumin can be detected with certainty and promptness, because the contrast between the turbid zone and the supernatant clear fluid is *very distinct*.

According to this author, likewise, TRI-CHLOR-ACETIC ACID produces no precipitation in normal urine. Only when the latter abounds in *urates*, a slight haze develops after some lapse of time;—this can be avoided, however, by gently warming the urine, or by diluting it with three times its volume of distilled water.

RAABE ascertained, by comparative tests, that TRI-CHLOR-ACETIC ACID is *decidedly more sensitive*, as a test for Albumin, than either Nitric or Meta-phosphoric Acid,—as follows:—

| | URINE, DILUTED TO: |
|---|---|
| **Tri-chlor-acetic Acid** produced *turbidity* in certain samples of | 250 times their volume. |
| **Nitric Acid** caused only a *faint haze* in the same | 100 " its " |
| —and acted only *after a considerable time* on | 150 " " " |
| —while it showed *no effect at all* on | 200 " " " |
| **Meta-phosphoric Acid** had but a *slight effect* on the same | 40 " " " |
| —and *none whatever* on | 50 " " " |

* **Sulpho-salicylic** (*Salicyl-sulphonic*) **Acid** as a **Urine-Albumin Test.**—According to G. ROCH ([122]), this substance is a very sensitive and reliable reagent for Albumin. SULPHO-SALICYLIC ACID—



—is a product of the action of Sulphuric Anhydride on Salicylic Acid. By its means, the presence of egg-albumin can be proved *with certainty* in a solution of 1 part of the latter in 20,000 parts of water.

To test urine for Albumin, all that is necessary is to add a few crystals of the readily soluble SULPHO-SALICYLIC ACID to a few cubic centimetres (1 ccm. = 16 minims) of *clear* urine, and *shake*. According to ROCH, the

(122) *Pharmazeutische Centralhalle*, 1889; p. 549.

appearance of turbidity indicates, *with certainty*, the presence of Albumin; for all the other constituents of urine,—such as Peptone, Glucose, Urea, Uric Acid, etc.,—*remain in solution;* the Albumin *alone* being precipitated by this reagent.

***N. B.***—*Directions for a searching prelude* to several of the usual **Urine-Sugar Tests** will be found among "SELECTIONS" in this Number, on page 58.

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## NEW PROXIMATE PRINCIPLES AND DERIVATIVES.

**Two New Alkaloids from Cevadilla,** recently discovered and isolated by E. MERCK, are by him named **Sabadine** and **Sabadinine** respectively, and described as follows:

Both *these new Alkaloids* differ *physiologically* from VERATRINE, CRYSTALLIZED, MERCK ([123]),—as well as from the AMORPHOUS VERATRINE of the Pharmacopœias,—in regard to **Sternutatory effect;** which is *far weaker* in SABADINE than in VERATRINE, and is *totally absent* in SABADINE.

Both are crystalline and yield *crystalline salts.*

Both are characterized by the peculiar property of *not precipitating* from *cold* solutions of their salts, when these are decomposed by the addition of Ammonia, Alkalis, or Alkaline Carbonates; but remaining in solution *until slightly heated*, whereupon they drop out in flocculi.

***Sabadine Alkaloid**—$C_{29}H_{51}NO_8$—may be prepared conveniently from its Nitrate. The latter, in its crude state, melts and decomposes at 302° C [575.6 F]; but, when it has been recrystallized from its aqueous solution, this point is raised to 308° C [586.4 F]. *Further* attempts at purification by recrystallization do not affect its melting-point. The Alkaloid, having been isolated from the salt, thus purified, by solution of caustic soda, is withdrawn from its aqueous solution by means of ether. When freshly isolated it is fairly soluble in ether; and, upon the slow evaporation of the latter it crystallizes, *in part*, in the form of short needles resembling Zinc Sulphate. In the crystalline form, it is sparingly soluble in water and in ether; it melts with decomposition at 238–240° C [460.4–464 F]. The portion of the alkaloid remaining in ethereal solution is left behind, after the evaporation of the solvent, as a varnish which solidifies into a crystalline crust, but possesses no definite melting-point. Ordinary alcohol, in which SABADINE dissolves easily, crystallizes the alkaloid most thoroughly; the latter separates from it in a porcelain-like mass of crystalline structure, having the above-mentioned definite

(123) *See* MERCK'S BULLETIN, 1890; page 107.

melting-point. *No varnish-like modification* was observed with this solvent. Upon *very* slow evaporation of the alcohol, the Alkaloid settles in well-formed crystals.

SABADINE dissolves with difficulty in ligroin, and separates therefrom in white, amorphous-looking flakes. It dissolves easily in acetone, and remains as a colorless varnish on evaporation. Concentrated sulphuric acid produces at first a yellowish color with greenish fluorescence; the latter disappears gradually, while the color changes to blood-red, and later to violet. Concentrated nitric acid has no apparent effect on the alkaloid.

*** Sabadine Hydrochlorate** — $C_{29}H_{51}NO_8.HCl + 2H_2O$ — crystallizes from water in white, slender needles, which dissolve with comparative difficulty in the same solvent. It loses its water of crystallization at 101° C [213.8 F], blackens toward 260° C [500 F], and melts with decomposition at about 282-284° C [539.6-543.2 F].

**Sabadine Hydrobromate** forms in stratified layers of white plates which are rather difficultly soluble in cold water; it turns brown at about 130° C [266 F], and cakes at a somewhat higher temperature, without exhibiting any definite melting-point.

***Sabadine Nitrate**—$C_{29}H_{51}NO_8.HNO_3$— crystallizes from water in small, fine, white needles; soluble in 131 parts of water at 13° C [55.4 F], and in 50 parts of boiling; melts, with decomposition, as above stated (at 308° C [586.4 F]).

***Sabadine Sulphate** forms most frequently in white, apparently amorphous masses; more rarely in stratified, limpid plates. It is freely soluble in water.

**Sabadine Hydrochlorate and Gold tri-Chloride**—$C_{29}H_{51}NO_8.HCl.AuCl_3$—precipitates from an alcoholo-aqueous solution (equal parts water and alcohol), of SABADINE HYDRO-CHLORATE upon the addition of Gold tri-Chloride, in mostly spherical, fleecy aggregations of fine yellow needles. It is difficultly soluble in water, and cannot be recrystallized without undergoing decomposition; it loses its color at about 135°C [275 F], and decomposes gradually above that temperature. If Gold tri-Chloride be added to *a plain solution* of the Alkaloid in Hydrochloric Acid, the double salt precipitates in an *amorphous* form. In this condition it dissolves only with difficulty in boiling water containing hydrochloric acid, and recrystallizes therefrom only after considerable time,—(3-4 days),—in compact, cauliflower-shaped masses.

***Sabadinine**—$C_{27}H_{45}NO_8$ (?) —was obtained pure from its Sulphate,—likewise by means of caustic-soda solution, and was withdrawn from the aqueous solution by repeated shaking with ether and chloroform. The Alkaloid is difficultly soluble in ether; it crystallizes therefrom—if allowed to stand undisturbed in covered, cylindrical vessels—in the form of long, filiform needles, grouped in heaps, bearing closest resemblance to mold-fungus colonies.

SABADININE is fairly soluble in water; from which it is most readily withdrawable by chloroform. SABADININE has no definite melting-point; it begins to cake above 160° C [320 F], and gradually decomposes at a higher temperature. Concentrated sulphuric acid produces a persistent blood-red color with it; while concentrated nitric acid occasions no perceptible change.

SABADININE can also be recrystallized from chloroform and from acetone. It is but poorly soluble in ligroin; it precipitates therefrom in white, apparently amorphous flakes. It is very freely soluble in alcohol.

***Sabadinine Hydrochlorate**—$C_{27}H_{45}NO_8.HCl + 5H_2O$ (?) —forms well-defined crystals, which contain water of crystallization, and are pretty easily soluble in water.

***Sabadinine Sulphate**—$C_{27}H_{45}NO_8.H_2SO_4 + 3H_2O$ (?)—is in the form of white needles; hygroscopic, and soluble in 16½ parts of water at 100° C [212 F], and in 38½ parts at 12° C [53.6 F]. Of its 3 molecules of water of crystallization, half a molecule is surrendered at 104° C [219.2 F],—the rest at a higher temperature.

**Sabadinine Hydrochlorate and Gold tri-Chloride**—$C_{27}H_{45}NO_8 HCl.AuCl_3$ (?)—is best obtained by adding Gold tri-Chloride to an alcoholo-aqueous solution of Sabadinine Chloride; after a short while the double salt precipitates in beautiful, glossy, yellow leaflets, which turn brown at 160° C [320 F], and decompose gradually at a somewhat higher temperature.

—The *Special Physiological Properties* of these two new Cevadilla Alkaloids are in process of investigation.

---

*** Muavine Hydrobromate,**—a new **"Ordeal-poison."**—MUAVINE is an Alkaloid obtained from the bark of a tree growing in Mozambique and called "*Muavi*" by the natives. Botanical details relative to this tree have not yet been obtained.

MUAVI-BARK is said to possess toxic qualities rather *similar to those of "Sassy-bark"* (from *Erythrophleum guineense*),—the principal difference being, that the action of MUAVI is much more rapid and violent. In Eastern parts of Africa this drug is used for ordeals.

The free alkaloid MUAVINE is amorphous. It occurs in the form of a viscid, syrupy liquid; readily soluble in alcohol, in ether, and in chloroform. It has much resemblance to ERYTHROPHLEINE, described previously ([124]).

Of the salts of MUAVINE, obtained so far, none have been found to be crystallizable. Muavine Hydrobromate is a white powder; soluble in water, in alcohol, and in chloroform.

As stated by Prof. Dr. KOBERT, of DORPAT UNIVERSITY ([125]), the action of MUAVINE on cold-blooded and warm-blooded animals, although on the whole similar to that of Erythrophleine, is not identical therewith.

(124) MERCK'S BULLETIN, 1888; p. 3.

(125) By Letter to E. MERCK.

Prof. K. is at present occupied with investigations on the physiological action of MUAVINE, which will be published as soon as obtained.

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† **Saccharose from Ipecac.**—In the preparation of Emetine from certain lots of Ipecac (but not from certain others) E. MERCK obtained, simultaneously with the alkaloid, about 5% of a substance consisting of large, vitreous, well-formed monoclinic prisms, melting at 163–164° C [325.4–327.2 F], dissolving freely in water, yielding the formula $C_{12}H_{22}O_{11}$,— and whose *identity with* **Cane-sugar** was established by the following parallels:

| REACTIONS. | **Cane-Sugar.** | **Ipecac-Saccharose.** |
|---|---|---|
| On FEHLING'S SOLUTION by Aqueous Solutions of: | *None.* | *None.* |
| On POLARIZED LIGHT by Aqueous Solutions of: | $[a]_D = +67.06°$ | $[a]_D = +67.45°$ |
| By CARBON DI-OXIDE, with HEAT and PRESSURE (according to LIPPMANN'S method) on Aqueous Solutions of: | Inversion. | Inversion. |
| On POLARIZED LIGHT, by Aqueous Solutions of the INVERSION-PRODUCT of: | $[a]_D = -21.4°$ | $[a]_D$ = about $-21°$ |
| On FEHLING'S SOLUTION by Aqueous Solution of the INVERSION-PRODUCT of: | Reduction. | Reduction. |
| By PHENYL-HYDRAZINE ACETATE on Aqueous Solutions of the INVERSION-PRODUCT of: | Yellow needles of an OSAZONE, melting at 204° C. | Yellow needles of an OSAZONE, melting at 199° C. |
| SPECIFIC GRAVITY of a 14.75° Aqueous Solution of: | 1.06 | 1.06 |

---

* **"Robinalbin"** might be suggested as the name for a *New Enzyme*, or "unformed ferment," obtained from the bark of the common LOCUST TREE (*Robinia pseudacacia*) by a process similar to that employed in obtaining Ricin from *Ricinus* seeds.

"ROBINALBIN," similarly to Abrin ([126]) and Ricin ([127]), is an ex-

(126) MERCK'S BULLETIN, 1890; p. 25.

(127) MERCK'S BULLETIN, 1890; p. 31.

ceedingly poisonous *Albuminoid* ([128]), but, according to Prof. KOBERT ([129]) of DORPAT UNIVERSITY, is *not identical* with either of the latter-named substances.

E. MERCK has undertaken the production of this ROBINIA FERMENT at the suggestion of Prof. KOBERT, who is now engaged in a physiological investigation of it.

---

* **A new Codeine Derivative** was recently discovered by E. MERCK, as a by-product in the manufacture of APO-CODEINE. The new substance is a crystallizable, strong base, closely resembling CODEINE chemically. *It differs from Apo-codeine* by its crystallizability. *It differs from Codeine:*

1stly,—by its higher melting-point (182° C [359.6 F]);

2ndly,—by a somewhat lesser solubility in the solvents of Codeine;

3rdly,—by the form of its crystals, and those of its hydrochlorate;

4thly,—by its property of being *instantly* precipitated by ammonia in the form of crystalline *needles*, not only from cold, but likewise from *boiling* aqueous solutions of its salts.

Prof. KOBERT, of DORPAT UNIVERSITY, after making physiological investigation of the new CODEINE-DERIVATIVE, states ([130]) that *its action is partly similar to that of Codeine* in kind, *but is weaker* in degree. CODEINE is known to have a twofold action, the primary effect being *narcotic*, and the secondary *convulsive*. Small doses produce narcosis only.

With the NEW SUBSTANCE, *the narcotic stage is scarcely, or not at all perceptible* in animals, not even after a dose threefold the effective one of CODEINE. *The tetanic action, however, is present,*—after such a threefold dose of the DERIVATIVE,—in a form simulating epileptic attacks quite closely. A cat survived the subcutaneous injection of 0.6 gramme [9 grains] of the DERIVATIVE, whereas it would have died from 0.2 gramme [3 grains] of CODEINE.

The physiologic action of the NEW BASE has been tested by Prof. KOBERT on carnivora, on herbivora, and on birds, and has been found essentially the same in all.

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(128) *See, also:*—B. POWER and J. CAMBIER; "On the chemical constituents and poisonous principle of the bark of Robinia Pseudacacia" (*Pharmazeutische Rundschau* 1890; p. 29).

(129) By Letter to E. MERCK.

(130) By Letter to E. MERCK.

# SELECTIONS.

## ANTIFEBRIN IN HARD AND SOFT CHANCRE. (131)

In the *Meditzinskoië Obozrenië*, Nos. 13 and 14, 1890, p. 84, Dr. ALEXANDER P. BAZILEVITCH, of Nicolskoië, warmly recommends the treatment of *Soft and Hard Chancre* by freely powdering it with ANTIFEBRIN twice daily (every morning and evening). —He describes a case of *Hunterian Chancre* in a man of 23, where the ulcer became strikingly cleaner on the third day of the treatment, to completely cicatrize in ten days.—In another case, referring to a man of 36 with a *large soft chancre*, the latter assumed a healthier appearance on the fourth day. On the seventh, there appeared sound granulations, the ulcer kindly healing in the beginning of the third week.—Similarly good results were also obtained in a case of a woman, aged 25, *with hard chancre of the minor labium and uterine cervix.*

The advantages claimed for the method are these:

1.) the lesions *heal* comparatively very *quickly;*

2.) the remedy is very *cheap;*

3.) it is entirely *free from odor;*

4.) even when used externally in "enormous" quantities it *does not give rise to any toxic or disagreeable phenomena.*

## THE SURE DETECTION OF SUGAR IN URINE. (132)

*By H. A. BISHOP.*

The detection of sugar in the urine by the present methods is difficult. The chemical analysis of the urine, I believe, should be conducted with the same judgment as the chemical analysis of any other fluid. First, we must examine the external properties—the color, gravity, odor, and reaction. While neither of these can furnish positive proof of the absence of certain constituents, they sometimes give indications of value. The fermentation test does not in all cases seem reliable; for urine passed after taking phenol contains bodies such as phenyl-sulphates and cresyl-sulphates. Salicylic and salicyluric acids occur in the urine after the administration of the former. Phenol and salicylic acid may be recognized after the administration of salol. Arsenic is absorbed into the system after its administration, and is found in the urine. There is proof that mercurials are absorbed and eliminated by the urine, as is also true of iodides, sulphur, etc. As fermentation is arrested by substances of antiseptic properties, it would seem impossible for complete fermentation to take place in a fluid in which such substances exist. The same conditions would also interfere with Fehling's test; for Fehling's solution is reduced in presence of arsenic, salicylic acid, and other organic substances liable to be present. The bismuth test would probably fail in presence of sulphur, and sulphur is invariably present either in the free or combined state. It is therefore absolutely necessary that the fluid be as free as possible from such bodies as would interfere with the tests. The following method will, it is believed, serve for the determination of sugar in the urine:

(131) *The St. Louis Medical and Surgical Journal*, 1890; p. 297.

(132) *The Journal of Analytical Chemistry*, Vol. IV, Part 2; April, 1890.

*The urine is first shaken with animal charcoal. As soon as the fluid appears colorless, add baryta water, boil, allow to cool, and filter. To the filtrate add cautiously a weak solution of cupric sulphate ($CuSO_4$) in moderate excess, allow to stand for one hour in a covered vessel, decant and filter. To the clear solution add $H_2S$ water in excess, or better, transmit $H_2S$ gas through the solution. Then filter, apply a gentle heat to expel the $H_2S$ which may be present, and again filter.*—The solution is now practically free from everything which would interfere with the determination of sugar, and the operation may be finished by either of the usual methods.

For the test analyses I took 125 cc. of normal urine free from sugar, in which I dissolved 2½ gms. inverted sugar, together with phenol, salicylic acid, arsenic, and mercuric iodide. From the above it will be seen that in 1 cc. there will be 0.05 gram of sugar; 31.25 cc. treated by the fermentation test gives 6.26 per cent glucose. 31.25 cc. titrated by Fehling's solution gives 12.34 per cent glucose. The remaining 62.5 cc. first treated by the process mentioned gave the following:

31.25 cc. by fermentation test, 8.98 per cent glucose.

31.25 cc. by Fehling's solution, 9.02 per cent glucose.

# GATHERED FORMULAS.

7.—**STRYCHNINE** in Nocturnal Seminal Emissions without Erection.—[MITCHELL (133).]

—Solution.—

| | |
|---|---|
| STRYCHNINE NITRATE..... ..... ... | 6 centigrammes [1 grain]. |
| Dilute Phosphoric Acid..... ..... | 10 grammes [2½ fl. dr.]. |

*Five drops in Water after each meal.*

8.—**CAMPHORIC ACID** in Phthisical Night-Sweats.—[LEU (134).]

—Powders—

| | |
|---|---|
| CAMPHORIC ACID ..... | 10 grammes [154 grains]. |

Divide into 10 powders!—*Two to five daily* (135).

9.—**PAPAYOTIN** as a Solvent of Cerumen.—[JOHNSTON (136).]

—Injection.—

| | |
|---|---|
| PAPAYOTIN..... | 5 grammes [ 77 grains]. |
| Distilled Water..... | 100 " [3⅜ fl. oz.]. |

*Inject* 15 *drops into the ear; after the lapse of an hour, syringe with a solution of Boracic Acid.*—[The efficacy of this method is far greater than that of BORACIC ACID *alone.*]

(133) *Terapia Moderna*, 1890; p. 528.

(134) *Journal de Médecine de Paris:* reprint in *Terapia Moderna*, 1890; p. 187.

(135) *See, also:* MERCK'S BULLETIN, 1888; p. 28.

(136) *Edinburgh Medical Journal*, 1890; January.

## *SULPHAMINOL IN ROTTEN-BROOD OF BEES.

L. WEISS, of Karlsruhe (Germany),—one of the foremost European authorities on Apiculture,—has communicated the results of a series of exhaustive and circumstantial experiments on **Rotten-brood of Bees**, to the official organ of the APICULTURAL SOCIETY of the Grand Duchy of Baden ([137]). He reports that (having tried all the remedies and therapeutic measures thus far recommended for the treatment of Rotten-brood—such as: Carbolic Acid, Tar, Salicylic Acid, change of abode, change of queens, etc.,—*in vain*) he found **Sulphaminol** to be *the only reliable remedy* in this disease.

WEISS gives the following details:

> "By means of a rubber ball,—such as is used for insect-powder bellows,—the covered as well as the uncovered brood, the walls, the floor,—in short, the entire hive is carefully dusted with SULPHAMINOL. This procedure is repeated every 2 or 3 days five or six times,—using 2–3 grammes [30–45 grains] of SULPHAMINOL each time. If then no healthy brood survenes, the swarm must be fed.
>
> "The result of the first application made by WEISS was that, after two days, when the hive was opened, the brood presented a light, clear color; in several parts cells were observed being cleaned. Hereupon the application of SULPHAMINOL was continued, as above directed. After a fortnight a large number of covered and open healthy broods were discerned. After 20 days it was necessary to enlarge the hive;—4 new combs having been built in the meantime, every cell of which contained fresh, healthy deposits.
>
> "SULPHAMINOL is prompt and certain of success, and stands unrivaled by any other remedy or method of treatment in ROTTEN-BROOD; its beneficial influence is always noticeable in less than two days. It is to be doubted that a relapse will ever occur."

Besides these valuable results, WEISS's experiments furnish strong evidence of the *absolute innocuousness* of SULPHAMINOL to the higher organisms, inasmuch as even such delicate creatures as bees tolerate the substance well. ([138])

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([137]) "The Bee and its Culture": *Journal of the* APICULTURAL SOCIETY OF BADEN, 1890; No. 6.

([138]) For Physiological and Therapeutical data on "SULPHAMINOL," *see* MERCK'S BULLETIN, 1890; p 106.

# STRAY ITEMS.

No. 1.

## SULPHAMINOL for Apiculture.

In the fall of 1889, the Provincial Government of Ontario, Department of Agriculture, in view of the wide-spread prevalence of Rotten-brood in its territory, issued the following ordinance (compliance with which is enforced by fine and imprisonment, when needed):

> "The APICULTURAL SOCIETY OF ONTARIO must annually appoint a chief and a deputy-inspector,—both to serve one year. The inspector shall visit every apiary, as soon as directed by the President of the Society. In case he finds the Apiary to be diseased, he shall order the affected swarms, together with the hives, *to be destroyed* by fire, or to be treated in the manner considered most suitable by him."

[The inspectors proceed in one of two ways: either they destroy, by fire, the bees and everything with which these have come into contact; or they follow the "starvation-plan." In the latter, the affected swarms are swept from their hives,—preferably toward evening,—into a clean, empty hive, and locked up for 48 hours, to "starve-out" the disease,—in which process necessarily a great many of the bees are also destroyed.—(The hives of the affected swarms are, of course, likewise burned or melted-out.)]—(‡)

—*All the loss of valuable property necessarily involved in pursuance of either of the above processes can be completely avoided by the proper use of* SULPHAMINOL. *This thoroughly roots-out the disease without injuring the bees or their brood or work in the least.*

(‡) *Societas Apiaria*, 1890; No. 15.

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***N. B.***—CONTRIBUTIONS to "Merck's Bulletin" from DOCTORS OF MEDICINE ***are paid for*** at the highest rates established in ***Professional Journalism.***

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***Substances marked thus* (†) *are NOT YET in the market. (Will be noticed again when obtainable.)***

# * POTASSIUM CANTHARIDATE, MERCK.

—[*See* "MERCK'S INDEX," p. III.]—

## Administered Subcutaneously with Effects Closely Similar to those of Brown-Séquard's Testicular Fluid.

WRITTEN FOR "MERCK'S BULLETIN"

By FELIX Baron VON OEFELE, M. D.

Upon comparing the symptomatic record of a number of cases recently treated by me with POTASSIUM CANTHARIDATE, *Merck*, with results described as obtained from BROWN-SÉQUARD'S TESTICULAR FLUID, I was so struck with the resemblance between the two records, that I deem it of possible interest to the Profession to communicate an outline of my experience as above alluded-to.

From March 7th to April 13th, 1891, I made 84 injections of POTASSIUM CANTHARIDATE, *Merck*,—(*some of these* being combined with Cocaine). Besides these, there were some, not here reported in detail, in which MORPHINE or other medicaments, not COCAINE, were combined with the POTASSIUM CANTHARIDATE. All the cases were of private patients. Abscesses were never produced; in one instance—where the solution employed *had been kept on hand for more than* 8 *days prior to its use*—small blisters formed about the point of injection. The *average dose* of POTASSIUM CANTHARIDATE in an injection was $\frac{156}{1000}$ milligramme [$\frac{1}{400}$ grain]; the *smallest* single dose (in a child), $\frac{30}{1000}$ milligramme [$\frac{1}{2100}$ grain]; and the *largest* dose, $\frac{400}{1000}$ milligramme [$\frac{1}{160}$ grain]!

The number of patients treated with these injections was 48; of these, 37 received but 1 injection each; 4: 2 injections each; 3: 3 injections each; 1: 4 injections; 1: 7 injections; 1: 9 injections; and 1: 10 injections. The largest *total dose* administered was $\frac{1660}{1000}$ milligramme [$\frac{1}{40}$ grain].

The patients treated suffered from the most widely different diseases, but had in common usually both *great lassitude* and *dyspnea;* sometimes, however, only one or the other symptom was present. The affections from which the patients suffered were as follows:

| *Disease.* | *Patients.* | *Injections.* |
|---|---|---|
| Anemia or Uterine Affections | 8 | 8 |
| Atheroma | 1 | 1 |
| Chronic Articular Rheumatism | 1 | 1 |
| Diseases of the Cord | 4 | 6 |
| Fistula | 1 | 1 |
| Gastric Diseases | 2 | 2 |
| Gout | 1 | 1 |
| Hysterical Paralysis | 1 | 1 |
| Influenza | 1 | 1 |
| Interstitial Hepatitis | 1 | 3 |
| Lead Colic | 1 | 1 |
| Luës | 1 | 1 |
| Neoplasms | 5 | 8 |
| Obesity | 1 | 1 |
| Pericarditis | 1 | 1 |
| Pleurisy | 1 | 1 |
| Tuberculous Processes, as below: | | |
| *Fungus* | 1 | 1 |
| *Laryngeal Phthisis* | 2 | 17 |
| *Pulmonary Phthisis* | 14 | 28 |
| Total | 48 | 84 |

Very bloody expectoration survened towards the end of the Cantharideal treatment in 3 patients who had received in all 26 injections; dysuria once in a child 12 years of age. One of the patients with Anemia and the patient with Lead Colic showed no reaction whatever from the injections. All the other patients felt better, more or less, in consequence of the treatment; they could breathe more freely, and felt stronger in walking about. Besides, I noticed that the Potassium Cantharidate *always increased the appetite;* I could not observe any direct influence on tuberculous processes, however. Potassium Cantharidate, in all probability, is not a specific, —no more so than, for instance, Arsenic,—with which it may further be compared in that the patients, in every case,—observed a gradual but progressive diminution in the relief obtained from subsequent injections.

The following additional case should also be mentioned:

A healthy school assistant who felt fatigued from over-work in preparing for school-inspection, received an injection of $\frac{200}{1000}$ milligramme [$\frac{1}{320}$

grain] of POTASSIUM CANTHARIDATE. As a result he experienced a feeling of *increased strength for several days following.*

The same feeling manifested itself also in the other patients, by preventing the appearance of sleep entirely or—at least—till late, the first night after the injection, even if the burning sensation at the puncture was only slight.—True it is that the burning sensation following the injection usually returned at night,—increased in strength, as a rule; but it was less intense and persistent the fresher the solution. The latter was invariably of the strength of $\frac{200}{1000}$ milligramme [$\frac{1}{320}$ grain] POTASSIUM CANTHARIDATE to 1 cubic centimetre [16 minims] Distilled Water (later Rose Water).

In 10 injections, 1% Cocaine Hydrochlorate and 0.2% Phenol were added on preparing the solution; without, however, thereby rendering the injections painless. In 43 subsequent injections I added 1–2 centigrammes [1/6–1/3 grain] of Cocaine Hydrochlorate and 2–4 milligrammes [$\frac{1}{32}$–$\frac{1}{16}$ grain] of Phenol in solution to each syringeful of the POTASSIUM CANTHARIDATE solution, with the result—if the solution of POTASSIUM CANTHARIDATE was freshly prepared—of usually preventing the first injection from producing any disagreeable sensation whatever at the site of puncture.

Of course, in children and patients with advanced Phthisis, the greatest care is necessary: successful results can hardly be attained without simultaneous internal treatment. However, the treatment of Phthisis is materially assisted by injections of POTASSIUM CANTHARIDATE, if the latter are not made too often or too strong.

## ANOTHER NEW TUBERCULOSIS METHOD.

***Mercur-thymol Acetate**—[*See* "MERCK'S INDEX," p. 89.]—**as a New Anti-tubercular.**—[TRANJEN'S MERCURIO-IODIC METHOD.]—Army-Surgeon TRANJEN, of Sistowo (Bulgaria), has published ([139]) the results of experiments made by him with this new remedy in the treatment of *Pulmonary Tuberculosis*, at the AUGUSTA HOSPITAL (Berlin), under the auspices of Prof. EWALD (CLINIQUE FOR INTERNAL DISEASES), who speaks very encouragingly of the results.

Dr. TRANJEN relates that, in view of *the deleterious effect had upon Tuberculosis by the usual Anti-syphilitic methods*, he was induced to use the *new Anti-syphilitic*, MERCUR-THYMOL ACETATE,—*as previously described in*

(139) *Berliner Klinische Wochenschrift*, 1891; No. 16.

*this journal* ([140]), in some cases of SYPHILIS COMPLICATED WITH TUBERCULOSIS. The remarkable and unexpected favorable effect had by this treatment *on the Tuberculous process* caused him to investigate the matter further, with especial regard to the *latter specific effect* of this Mercury salt. The following is an outline of his method and results:

Dr. TRANJEN injects MERCUR-THYMOL ACETATE, suspended in Liquid Paraffin in the proportion of 3 : 40, into the gluteal muscles, once every 7 or 10 days,—using 16 minims of the mixture each time. After the second or third injection,—and *after the complete subsidence of fever*, if any be present, a tablespoonful of a 1 : 40 aqueous solution of POTASSIUM IODIDE is administered, internally, three times a day. As for the results of this method of treatment in 51 cases of Pulmonary Phthisis, Dr. TRANJEN says that, in the *initial stage*, he has effected, in a very short time, a *great improvement*, which, should it continue, may well be designated as a *cure;* that in cases where the disease was *not too far advanced*, he has observed a more or less *considerable improvement;* and that in very *serious cases*, he has observed *no ill effects*, save a slight rise of temperature.

Of the anatomically or clinically recognizable effect of the Mercury and Iodine, thus administered, on the tuberculous tissues, Dr. TRANJEN says nothing. As regards the bacilli, he has noted a diminution in their number in some of his patients; in one instance, the bacilli *disappeared entirely* from the sputa.

Prof. EWALD says, in his comment on Dr. TRANJEN'S report, that the latter's experiments are far from sufficient to warrant a conclusive opinion on the value of the method advocated, and strongly cautions against expecting too much from TRANJEN'S treatment. On the other hand, however, he testifies to the fact that, *in suitable cases, the results of the method of treatment in question were so favorable, and at the same time, so easily and quickly attained, as he had never before witnessed from other remedies. No disturbance* was produced by the injections, save pain at the point of puncture, and a slight rise of temperature.

Prof. EWALD believes that the *fixed* cells of the tuberculous tissues are influenced by the medicaments employed in TRANJEN'S method of treatment.

(If Dr. TRANJEN'S opinion in regard to the deleterious effects of the *older* Anti-syphilitic methods upon Tuberculosis is correct, MERCUR-THYMOL ACE-

(140) *See* MERCK'S BULLETIN, 1889; pp. 5, 77 and 81.—*See, also*, "Mercur-thymol Acetate in Syphilis," *in this Number*, page 74.

TATE may well be hailed with joy as an Anti-syphilitic most eminently eligible in *Syphilis complicated with Tuberculosis.* The results obtained by this observer from the use of MERCUR-THYMOL ACETATE in Simple Tuberculosis appear sufficient to warrant, *at least*, a systematic repetition of TRANJEN'S original experiment with MERCUR-THYMOL ACETATE in the treatment of *Syphilis in Tuberculous patients.*)

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***Aloin.**—[*See* "MERCK'S INDEX," p. 11.]—**New Theory of its Action as a Cathartic, and New Method for its Administration.**—Prof. HANS MOYER recently published ([141]) an exhaustive treatise on ALOIN, the most important parts of which are reproduced here:

**Barbadoes Aloin**—from *Barbadoes* or *Curaçao Aloes*—acts as a cathartic with certainty, whether applied *internally* or *subcutaneously*. The efficient dose seems to be about the same in both methods. This may be explained by the fact that, under either circumstance, the greater part of the ALOIN gets into, and is eliminated through, the intestines.

Internally, Prof. MOYER administered the medicament in pills made with Extract Glycyrrhiza. For *subcutaneous* injection, *Formamide*—C H O.-N $H_2$—was found an apt vehicle; because, with the aid of gentle heat, both BARBADOES and NATAL ALOIN (from *Aloe hepatica*) dissolve easily and freely in it; and because, in experiments on cats and dogs, it produced no noticeable symptoms when injected in doses of 1–2 cubic centimetres [15–30 minims]. *Strong heat should not be employed* in preparing this solution, to avoid the formation of Ammonia.—The Formamidated solution, properly prepared, is neutral in reaction, and produces only a few minutes' burning sensation about the point of injection,—*without any further reaction.*

BARBADOES ALOIN is soluble also in *Warm Water;* but this solution is quite *unstable*, and its local effect is *painful* in consequence (owing to rapid precipitation of the ALOIN in *crystals*).

A solution of BARBADOES ALOIN in *Glycerin* is much *more permanent*, and occasions no considerable irritation; but it is not always convenient of application on account of its *viscidity*.

BARBADOES ALOIN acts only 8–30 hours after its application. This lapse of time renders it rather probable that it is *not the* ALOIN *itself* that purges, but a *fractionation-product* of it, formed in the intestines. Hence, inasmuch as ALOIN is easily attacked by alkalis and metallic salts, Prof.

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(141) *Archiv für Experimentelle Pathologie und Pharmakologie*, Vol. XXVIII; page 186.

MOYER tried to *strengthen or hasten its action* by the addition of CARBONATE OF POTASSIUM or of SULPHATE OF IRON. In a few cases, particularly upon the addition of Sulphate of Iron, the desired result was obtained.

*The action of* BARBADOES ALOIN is shown in the following table:

## Experiments on Man. (*Nourishment:* Mixed diet.)

### I. Internal Administration.

| PATIENT. | Dose of ALOIN. | REMARKS. |
|---|---|---|
| K | *0.1 gramme. | After 22 hours, a soft non-diarrheal stool. |
| N | 0.1 " | No effect. |
| B | 0.1 " | After 24 hours, a copious paplike stool; during the following 12 hours, 2 more paplike stools. |
| S | 0.2 " | After 12 hours, a fluid passage; for 4 hours quite violent colicky pains and flatulence; subsequently 3 more fluid evacuations. |
| K | 0.2 " | After 26, and again after 48 hours, a paplike stool; half an hour later, a fluid passage. |
| B | 0.2 " | After 14 hours, a copious, thin paplike stool; 2 hours later, another; persistent but slight tenesmus, without pain. |
| M | 0.2 " | After 7½ hours, colic, a copious fluid evacuation; within 2 hours, another passage, after which the pain ceased; tenesmus continued. |
| N | 0.2 " | No noticeable effect. |
| N | 0.3 " | After 30 hours, soft-solid stool; 10 hours later, copious paplike evacuations. |
| | ALOIN, *and* POTASSIUM CARBONATE, *of each:* | |
| S | 0.1 gramme. | After 12 hours, colicky pains; 2 hours later, a thin paplike stool; after 7 hours more, another passage; shortly after, a third fluid evacuation. |
| B | 0.1 " | After 20 hours, a paplike stool; 4 hours later another; some tenesmus. |
| K | 0.1 " | After 30 hours, a thin paplike stool; during the following 9 hours, 2 fluid evacuations. |
| M | 0.1 " | Colic and lively tenesmus; after 13 and again after 20 hours, a fluid stool. |
| K | 0.2 " | After 26 hours, a soft-solid stool; later, a thin evacuation. |
| N | 0.3 " | After 22 hours, partly shaped and partly paplike feces. |

* 1 gramme = 15.432 grains.

| Patient. | Aloin, *and* Iron Sulphate, *of each:* | Remarks. |
|---|---|---|
| F | 0.1 gramme. | After 6½ hours, violent tenesmus; half an hour later, a thin paplike stool; during the following 16 hours, 5 more fluid passages; occasionally severe colic.—15 drops of Tincture of Opium were administered. Nevertheless, 2 more paplike evacuations, 10 and 12 hours later, respectively. |
| N | 0.2 " | Rumbling and flatulence; after 48 hours, a paplike stool. |
| S | 0.15 " | After 11 hours, a thin paplike stool, slight colicky pains, and persistent tenesmus; 2 more fluid evacuations during the following 6 hours. |
| B | 0.1 " | After 14 hours, a thick paplike stool; 8 hours later, a thin paplike passage; the following day, a fluid evacuation. |
| N | 0.4 gramme. | After 22 hours, a copious paplike evacuation, after previous lively tenesmus. |

**II. Subcutaneous Administration.**

(*The injections were always made into the forearm.*)

| | | |
|---|---|---|
| B | 0.05 gramme. | After 7 hours, a paplike stool; 12 hours later, the same. No Albumin or Aloin in the urine. |
| B | 0.05 " | After 22 hours, a copious, thin, paplike stool. |
| S | 0.05 " | After 16 hours, colic and a thin, paplike stool; 4 hours later, a fluid evacuation. |

**Natal Aloin**—from *Aloe hepatica*—seems to be *inert*, as a rule, *in man*, whether given alone or in combination with alkalis. *In dogs and cats*, on the contrary, it produced *certain* catharsis when combined with alkalis, even in small internal and subcutaneous doses. It occurred to the author that this striking discrepancy might be due, in part, to the difference in *the nature of the food*,—the *more energetic zymotic processes in Carnivora* possibly favoring the chemical change in the markedly stable composition of Natal Aloin, indispensable to its physiological action. A number of experiments were thereupon made with Natal Aloin *on persons fed for six days exclusively on an animal diet* (meat, eggs, and cheese).—*Catharsis resulted in all these cases.*

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* **Apo-codeine**—$C_{18}H_{19}NO_2$—[*See* "Merck's Index," p. 20.]—as an **Emetic** and an **Expectorant.**—This Alkaloid was discovered by Mat-

THIESSEN AND WRIGHT between 1869 and 1870, and described more accurately, shortly after, by MATTHIESSEN AND BURNSIDE. It is obtained by heating a concentrated solution of Zinc Chloride with Codeine Hydrochlorate for 15 minutes, at 170–180° C [338–356 F]; — one molecule of Water fractionating from the Codeine,—as follows:

$$C_{18}H_{21}NO_3 = H_2O + C_{18}H_{19}NO_2.$$

Codeine = Water + APO-CODEINE.

APO-CODEINE is soluble in alcohol, in ether, and in chloroform; insoluble in water. Neither the pure Alkaloid nor its Hydrochlorate have thus far been obtained in crystalline form.

The reactions of APO-CODEINE are similar to those of *Apo-morphine*; the blood-red coloration produced by Nitric Acid, however, lasts much longer in APO-CODEINE than it does in Apo-morphine. Besides, APO-CODEINE is more stable than Apo-morphine. The *Hydrochlorates* of these two Alkaloids differ in their form: **Apo-codeine Hydrochlorate**— [*See* "MERCK'S INDEX," as above!],— as already mentioned, is amorphous; the Apo-morphine Hydrochlorate of the Pharmacopœias is crystalline.

—DUJARDIN-BEAUMETZ places APO-CODEINE nearly on a par with APO-MORPHINE as an *Emetic*, and recommends it in Hemoptysis, Croup, and Whooping-cough,—*subcutaneously*, in doses of 0.015 gramme [¼ grain] of the HYDROCHLORATE; whereas, *per os*, the dose is 0.04 gramme [⅔ grain].

Quite recently, WILLIAM MURRELL ([142]) found that, in Chronic Bronchitis, APO-CODEINE HYDROCHLORATE acts as a powerful *Expectorant.* It is best administered in *pill-form;*—and 0.18–0.24 gramme [3–4 grains] of it may be given *daily* (!) without fear of any injurious effects whatever. Satisfactory results were obtained in 6 cases; in one case, nausea and vomiting survened.

*Subcutaneous injections* of a 2% aqueous solution also acted promptly as an Expectorant, without any untoward accessory symptoms. MURRELL cannot, therefore, accept the opinion expressed by WICKHAM LEGG, that APO-CODEINE is worthless for subcutaneous use. However, *it is to be remarked* that the solutions employed must be *perfectly neutral.* The injections are made into the right and left arm: the dose for each is 0.616–1.53 cubic centimetres [10–25 minims] of the 2% Solution, containing $\frac{1}{5}$-$\frac{1}{2}$ grain of the Salt.

(142) *British Medical Journal*, 1891; p. 452.

***Pyoktanin** *indorsed* for **Ophthalmiatrics** and **Otiatria.**—([143]) "Both varieties of PYOKTANIN—BLUE and YELLOW—were given a trial in a large number of cases in my clinic, and, upon my suggestion, in those of several others at the OPHTHALMIC HOSPITAL. Have not as yet had time to prepare a detailed history of my cases for publication, as I intend to do at the first opportunity; but I would say that I have used it in a large number of cases with *the most flattering results.*

"The cases that I have used it in have been CORNEAL ULCERS, PURULENT CONJUNCTIVITIS, BLEPHARITIS, SUPPURATION OF THE MIDDLE EAR, MASTOID DISEASE, and am now using it in one case of LUPUS OF THE EAR. *In none of the cases that I have used it have I seen the slightest bad effect;* in fact, it has proven so valuable in my hands that you may put me down as unqualifiedly indorsing PYOKTANIN in diseases of the eye and ear.

"A number of my friends, to whom I have extolled its merits, are also now *using it with the greatest satisfaction.*

"A. B. NORTON, M. D.

"152 West Thirty-fourth street, New York."

---

**Pyoktanin Stains Removable.**—The blue stains on the hands, etc., from PYOKTANIN, *are readily removable* by lathering with common SOAP (rubbing-in well), and then washing (or, if need be, brushing) off with ALCOHOL, or with *any strong* ALCOHOLIC LIQUOR.

This method may prove more generally practicable—on account of the ease of obtaining the materials anywhere—than any of those described in a recent number of this journal ([144]).

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***Retinol** (ROSINOL; *Resinol*),—a distillation-product of *Pine or Fir Resin*, (Colophony or Burgundy Pitch),— discovered by PELLETIER AND WALTER in 1838, remained in obscurity till quite recently, when it was successfully employed by BALZER, DU CASTEL, BARBIER, HUBERT, and DÉSARÈNES, as an **Antiseptic** in the treatment of *Gonorrheal Vaginitis, Syphilitic and Varicose Ulcers, Gonorrhea, Psoriasis*; as well as in *Ophthal-*

(143) Letter to E. MERCK.

(144) MERCK'S BULLETIN, 1891; page 14.—(*For Therapeutical reports*, etc., on PYOKTANIN, *see* p. 17, and the other places cited in Note 23 thereon.)

*mologic*, *Otologic*, and *Rhinologic practice*. It contains various substances, such as Terpenes, Creasote, Carbolic Acid, Cresol, etc., besides traces of Resin—according to its source.

In a paper read before the Société de Thérapeutique, meeting of January 14th, 1891, F. Vigier ([145]) describes the physical, chemical, and therapeutical properties of Retinol,—as follows:

Retinol, when pure, is simply a Hydrocarbon of the formula $C_{32}H_{22}$, in the form of a viscid fluid similar to Castor Oil, with a peculiar odor, and a specific gravity of 0.900; it boils at 238° C [460.4 F].

Retinol is a *non-irritating* and *very stable* Antiseptic. In *Specific Vaginitis*, Tampons saturated with *Pure* Retinol, or Suppositories composed of equal parts of White Wax or Soap and Retinol, are used with good and rapid effect. Tannin and Borax may be added.—Cures were obtained usually in from 12 to 15 days.

In *Gonorrhea* in the male, the Retinol method procured remarkably prompt amelioration.—It was employed as an Injection, alone or associated with 3% of *Resorcin* (*see below!*); and also administered **Internally**, in capsules, pure or mixed with *Salol*, in doses of 0.5 gramme [8 minims] 4–6 times daily.

In the various uses above stated, it was *always well borne* and *never caused any pain*.

In *Skin Diseases*,—such as Psoriasis,—it has acted very satisfactorily when combined with *Naphthol* and *Oil of Cade*, on a basis of Starch.

In *Respiratory Troubles* (Bronchitis, Phthisis, etc.), *Creasoted* Retinol, in capsules, was employed.

—However, the peculiarly characteristic property of Retinol is its power as a **Solvent of certain Medicinal Substances**, *particularly* Phosphorus. Vigier has employed Retinol pharmaceutically in this character, and found that it dissolves Phosphorus very quickly, and that the solution *keeps* for a long time without decomposition—because Retinol is *non-oxidizable* by ordinary atmospheric action.

All mixtures, oils, pills, etc., containing uncombined Phosphorus, are known to *keep very poorly*,—the Phosphorus becoming oxidized first into Phosphorous Acid, and finally into Phosphoric Acid,—thus losing its specific efficacy. The only exception is Zinc Phosphide, which keeps well in pill-

(145) *Bulletin Général de Thérapeutique*, 1891; Nos. 5 and 7.

form, and is converted in the stomach into Phosphuretted Hydrogen. Still, the Phosphorus is *not set free* even then; which is a drawback.—A 1% solution of *Free Phosphorus* in RETINOL, on the contrary, *remains permanent* for months; and Gelatin capsules, containing ½ milligramme [$\frac{1}{130}$ grain] of Phosphorus dissolved in RETINOL, *keep without decomposition.*

Hence, RETINOL appears eligible as a **Phosphorus-solvent** wherever Phosphorus is to be administed internally; as, for instance, in Rhachitis, Scrophulosis, Anemia, Chlorosis, Dysmenorrhea, Uterine Hemorrhages, Muscular Paralysis, Progressive Locomotor Ataxia, Neuralgias, Neuroses, Hysteria, and Glaucoma.

—To prepare PHOSPHORIZED RETINOL, heat the RETINOL to a little above 100° C [212 F], so as to remove every trace of moisture, pour it into a dry glass, and, as soon as cool, add *perfectly transparent* Phosphorus previously dried with blotting paper. The whole is then corked up cautiously, heated, and occasionally shaken until the Phosphorus is dissolved, and then set aside to cool.

—RETINOL dissolves, besides Phosphorus, also Carbolic Acid and Creasote, in every proportion; Camphorated Naphthol, very freely; Salol in the proportion of 1:10; Camphor, 1:20; Cocaine, 1:30; Chrysophanic Acid and Codeine, 1:40; Iodol, Naphthol, and Aristol, 1:50. Furthermore, RETINOL mixes in every proportion with Alcohol, Ether, Oil of Turpentine, and Oil of Cade; combines readily with Peru Balsam, Fatty Oils, Glycerin, Vaselin, and Lanolin; but is *non-miscible with Water.*—It also dissolves Strychnine, Resorcin (previously dissolved in Glycerin), and Iodoform (previously dissolved in Ether).

---

* **Tuberculin-Koch,—Directions for Use;—*Modification!*—**Instead of the following sentences, as printed in Dr. LIBBERTZ's Directions (page 50 of last Number):

> "Should the temperature rise to 39° C [102.2 F] in consequence of the injection, the following doses should not be increased, but continued the same until the temperature ceases to rise beyond 38° C [100.4 F].
>
> "When an elevated temperature prevails for some considerable time, the *injections must be suspended* until the temperature has dropped back to 38° C [100.4 F] *at most.*"

—**a New Version** has been issued by PROF. KOCH'S LABORATORY in Berlin, as below ([146]):

---

(146) *Circular signed by* Dr. A. LIBBERTZ (Prof. KOCH's Delegate for *Tuberculin*).

*"Should the temperature rise above 38° C [100.4 F], in consequence of an injection, the following dose should not be increased. The same, or a smaller dose, is then so long employed, until the temperature remains below 38° for several days at a time. In any event, the injections must not be continued before the phenomena of the reaction have subsided."*

---

## VEGETABLE DRUGS AND GALENICS.

—[CONTINUED FROM MARCH NUMBER.]—

***Embelia ribes,** (*Barabang*),—**Fruit.**—(*Myrsinaceæ.*)—Indigenous to the East Indies.

This Drug is held in high regard an an **Anthelmintic.** The active principle of this fruit is EMBELIC ACID, described in a previous number of this journal (147). According to W. DYMOCK (148) children receive one teaspoonful of the powdered fruit, adults a dessertspoonful, twice daily. A Cathartic is given with advantage before the administration of the drug.

---

***Gymnema sylvestris,** (*Merasingí*),—**Leaves.**—(*Asclepiadeæ.*)—Indigenous to India. The GYMNEMA LEAVES, when chewed, possess the peculiar power of *completely* **Blunting the Sense of Taste** *for sweet and bitter substances,* so that SUGAR or QUININE *cannot be detected by the taste* for about 1–2 hours thereafter. According to Dr. HOOPER (149), this action is to be ascribed to **Gymnemic Acid,**—$C_{32}H_{55}O_{12}$,—a resin-acid contained in the leaves.

---

***Hysterionica Bailahuen,** (*Bailahuen*),—**Herb.**—(*Synantheræ.*)—Indigenous to Chili.

The stems and leaves of this plant are covered with a yellow, sticky exudation having a balsamic odor. Besides this resinous substance, which is probably the locally irritating constituent of BAILAHUEN, the presence of Tannic Acid in large quantities has been established.

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(147) MERCK'S BULLETIN, 1889; page 21.

(148) "Vegetable Materia Medica of Western India," p. 472.

(149) *Pharmaceutical Journal and Transactions*, Vol. XVII; p. 867;—and *Chemical News*, 1889; p. 159.

BAILAHUEN has been used and highly valued for a long time by the natives of Chili, as an excellent remedy in *Chronic Diarrheas*, etc. D. CARVALLO'S and E. EISELE'S ([150]) report on the extraordinary efficacy of its FLUID EXTRACT was noticed in this journal recently ([151]).

---

* **Monesia,**—AQUEOUS EXTRACT OF BARK,—[*See* "MERCK'S INDEX," p. 56.]—as an **Expectorant.**—According to Dr. ROSANOFF ([152]), MONESIA-BARK, heretofore known only as an Astringent and Stomachic, acts also as an *Expectorant*—by virtue of its SAPONIN constituent. Its use occasions no disagreeable accessory symptoms,—wherefore it is *preferable to most other expectorants*, among which there are many—as Senega and Ipecac, for instance—that exert *specific actions* on the organism, in several other directions *beside* that here desired.

The employment of MONESIA is indicated in all those cases in which an Expectorant must be administered uninterruptedly *for a considerable time*, and in which there is occasion to fear digestive disturbances therefrom.

MONESIA is *also* certain of favorable action in **Chronic Diarrhea;** but it is indicated *primarily and chiefly* in all chronic affections of the respiratory tract, complicated with digestive disturbances. The most eligible preparation of MONESIA is the *Aqueous Extract of the Bark*, which may be administered in the following formula:

| | | | |
|---|---|---|---|
| Aqueous Extract of MONESIA BARK... | 2–4 | grammes | [31–62 grains]. |
| Distilled Water | 150 | " | [ 5 fl. oz.]. |
| Syrup | 30 | " | [ 6 fl. drs.]. |

*Teaspoonful every 2 hours.*

---

* **Naregamia alata,** (*Nelanaringu*),—**Root.**—(*Meliaceæ.*)—Indigenous to the East Indies.

NAREGAMIA ROOT is used by the natives of East India as a **Cholagogue.** HOOPER ([153]) found in it an alcohol-soluble Alkaloid: **Naregamine.** The Drug is used chiefly for making NAREGAMIA TINCTURE, (or: FLUID EXTRACT), mentioned in the last Number of this journal ([154]).

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(150) *Boletin de Medicina*, 1889; p. 498.

(151) MERCK'S BULLETIN, 1891; p. 37.

(152) *Meditziniskoïë Obozhrenië*, 1890; p. 1136.

(153) *Pharmaceutical Journal and Transactions*, 1887; p. 317.

(154) MERCK'S BULLETIN, 1891; p. 38.

# SELECTIONS.

## MERCUR-THYMOL ACETATE IN SYPHILIS. (155)

DR. SCHLEICHSZADEK (*Bulletin Général de Thérapeutique et de Clinique*, December 13, 1890) has used this remedy in cases of *recent or inveterate* syphilis, employing 1½ parts of it to ½ part of acacia mucilage, and 20 parts of distilled water, *by injection into the gluteal region*, every three or four days.

Eighteen cases were so treated, the treatment in one lasting for forty-two days, the others for twelve days. After two or three injections, exanthematous eruptions commenced to disappear, while after the fourth injection the ulcers were well advanced toward cure. Usually vascular exanthemata of recent date only required four to six injections, while papular efflorescences completely disappeared under six to eight injections. Squamous and pustular affections of chronic cases, and even specific cutaneous affections, disappeared *with more rapidity than could have been effected through the employment of other mercurial preparations*. In syphilitic laryngitis with complete aphonia, the symptoms rapidly disappear after the first injections.

These injections have never been followed by any local inflammatory action nor induration or abscess, while stomatitis occurred but rarely, and never severely.—(156)

## THE ALPHA-NAPHTHOL TEST FOR URINE-SUGAR. (157)

POSNER and EPENSTEIN (*Berlin. Klin. Wochenschrift*, February 23, 1891), reviewing the details of this test, consider it to be free from many of the objections raised against other tests for sugar. It depends upon the fact that a solution of sugar, in presence of pure concentrated sulphuric acid and a solution of ALPHA-NAPHTHOL, gives a violet-colored reaction, due, according to UDRANSKY, to the separation of Furfurol. This reaction occurs not only with sugars, but with all carbohydrates and certain albuminoids; hence, *the urine must be free from albumin*. The test is extremely sensitive, showing *one-hundredth of one per cent* of sugar. The reagents and glasses must be chemically clean. It was noted that normal urine, *i. e.*, urine which showed no presence of sugar by any of the accepted tests [?— ], gave with this test the reaction of such intensity as to indicate the presence of two hundredths of one per cent of sugar. The authors do not discuss the cause of this occurrence, deeming it sufficient to state that if the urine is diluted at least twenty times, this reaction is not obtained in normal urine. Hence, in practice the urine *must always be previously diluted*.

---

(155) *Massachusetts Medical Journal*, 1891; p. 185.

(156) *See, also:* " Mercur-thymol Acetate as a New Anti-Tubercular,' *in this Number*, page 63.

(157) *University Medical Magazine*, 1891; p. 482.

(158) *Compare, here anent:* " Phenyl-hydrazine in Urine-testing," in MERCK'S BULLETIN, 1890; p. 89;—and: " The Sure Detection of Sugar in Urine," in Do., 1891; p. 58.

## NAPHTHOL IN PURULENT OPHTHALMIA. (159)

Dr. BUDIN, Accoucheur at the CHARITÉ HOSPITAL, states that with NAPHTHOL the swelling of the eyelids yields rapidly, the cauterizations need not be practised so frequently, and if the NAPHTHOL cannot replace nitrate of silver, it renders great service as an adjuvant in the treatment of Purulent Ophthalmia; it is far preferable to boric water. Dr. BUDIN cites, in his clinical lectures, an observation in which, boric water not having produced any amelioration whatever, with NAPHTHOL the conjunctivitis, which had lasted a long time, disappeared rapidly. Since the researches of Dr. BUDIN, the *Alpha*-NAPHTHOL, which is twice more antiseptic than the *Beta*-NAPHTHOL, has been adopted with great advantage. The non-alcoholized solution is that employed, and is composed as follows: *Alpha*-NAPHTHOL, 20 centigrammes; Distilled Water, 1,000 grammes.

## STROPHANTHUS IN EXOPHTHALMIC GOITRE. (160)

In a paper read before the NEW-YORK STATE MEDICAL ASSOCIATION (*New-York Medical Journal*, November 8, 1890), Dr. E. D. FERGUSON reported several cases of exophthalmic goitre in which the administration of STROPHANTHUS afforded *prompt relief*, the patients being able to return to their ordinary occupation. As was expected, however, in no instance was either the exophthalmia or the goitre removed, although in each there was decided improvement. The pulse rate and the rhythm of the cardiac contractions improved even in cases in which there was undoubtedly dilatation of the left ventricle, and in the latter cases all the signs and symptoms of dilatation disappeared. The only preparation of the drug used by Dr. Ferguson was the TINCTURE, which was given by the mouth three times daily *during meals*, the initial dose being from eight to ten drops, which was increased, if necessary to reduce the frequency of the pulse, to fifteen, twenty, or even twenty-five drops.

## RESORCIN IN WHOOPING-COUGH. (161)

This remedy seems to be gaining ground in the treatment of pertussis. In a late number of the London *Lancet* it is stated that Dr. JUSTUS ANDEER, who had previously written in recommendation of the employment of RESORCIN in whooping-cough, has recently published some fresh cases illustrating, as he believes, the advantage of this method of treatment. One of the patients was his own child, a little girl of 7 years of age, who during an epidemic of measles and whooping-cough was attacked by the catarrhal form of the latter affection and suffered severely for a week, notwithstanding a change of climate. He then prescribed an ounce of a 2 per cent solution of RESORCIN four times a day, part of which solution the child was to gargle, and part of which she was to take. This very soon began to show signs affecting the course of the disease, for on the second day the fits of coughing very perceptibly diminished, and in eight or ten days the child was quite free from coughing. Five other children, who had been unsuccessfully treated for some time,

(159) Paris Correspondence of *Medical Record.*

(160) *The Medical News*, 1890; p. 633.

(161) *Cincinnati Medical Journal.*

immediately began to improve under the RESORCIN treatment. In the case of a baby of 6 months a sweetened solution of the strength of ½ per cent was given by means of a feeding-bottle and answered admirably.

## GATHERED FORMULAS.

10.—**PYOKTANIN** in Palpebral Epithelioma.—[GALEZOWSKI (162).]

—Paint.—

| | |
|---|---|
| PYOKTANIN | 1 part. |
| Distilled Water | 100 parts. |

*Apply* 5–6 *times daily.*

11.—**PYOKTANIN** in Empyema of the Frontal Sinus.—[CHOLEWA (163).]

The previously heated silver probe is armed with PYOKTANIN in substance for a distance of 1½ centimetres [⅗ inch], not too thick, and introduced into the sinus, where it is left for a short time. On withdrawing the sound, the walls of the canal are painted with the substance. Two to three applications suffice to bring-on a cure.

12.—**PYRIDINE** in Gonorrhea.—[RADEMACKER (164).]

—Injection.—

| | |
|---|---|
| PYRIDINE | 0.3 gramme [5 minims]. |
| Distilled Water | 90 grammes [3 fl. oz.]. |

*One injection daily.*—(The author considers PYRIDINE *the best* remedy in this affection, and asserts that 3 to 4 *injections* suffice to produce a cure.)

13.—**ATROPINE** in Urinary Incontinence of Children.—[WATSON (165).]

—Solution.—

| | |
|---|---|
| ATROPINE SULPHATE | 0.06 gramme [1 grain]. |
| Distilled Water | 30 grammes [1 fl. oz.]. |

*Twice daily* (at 4 and 7 o'clock P. M.) *as many drops as the child is years of age.*

(162) *Semaine Médicale*, 1891; p. 70.

(163) *Therapeutische Monatshefte*, 1891; p. 189.

(164) *Terapia moderna*, 1890; p. 335.

(165) *Therapeutische Monatshefte*, 1891; No. 64.

# STRAY ITEMS.

No. 2.

## INCOMPATIBLES OF ANTIPYRINE.

According to MILLARD and CAMPBELL.

The following substances produce *Precipitates* when added to aqueous solutions of ANTIPYRINE:

**Carbolic Acid** in *saturated* solution;
**Tannin**—(a white insoluble precipitate);
**Mercuric Chloride**—(a white precipitate, soluble in an excess of water);
**Infusion Catechu;**
**Infusion Cinchona-bark;**
**Infusion Rose-leaves;**
**Infusion Uva ursi;**
**Solution of Extract Cinchona-bark;**
**Tincture Catechu;**
**Tincture Cinchona;**
**Tincture Hamamelis;**
**Tincture Iodine**—(a precipitate soluble in water);
**Tincture Kino;**
**Tincture Rhubarb.**

The following substances produce *Coloration* when added to aqueous solutions of ANTIPYRINE:

**Hydrocyanic Acid,** *dilute* solution ..... yellow;
**Niric Acid,** *dilute* solution..... weak yellow;
**Ammonia-Alum,** *dilute* solution..... dark yellow;
**Amyl Nitrite,** *acid* solution..... green;
**Nitrous Ether,** *alcoholic* solution..... green;
**Copper Sulphate**..... green;
**Ferrous Sulphate**..... yellow-brown;
**Ferric Sulphate**..... blood-red;
**Ferric Chloride**..... blood-red;
**Syrup Iodide Iron** ..... red-brown.

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# *COCAINE PHENATE—A TOPICAL ANTICATARRHAL, Etc.

## Of Pre-eminent and Wide-reaching Efficacy.

### Theory of both Cocaine and Phenol Anesthesia, as being dependent on Temporary Ischemia.

WRITTEN FOR "MERCK'S BULLETIN"

By FELIX Baron VON OEFELE, M. D.

Having therapeutically studied COCAINE PHENATE (*Carbolate*) MERCK —[*See* "MERCK'S INDEX," p. 38.]—for more than a year past, I now deem myself prepared to publish a summary of the results of this investigation.

[A *Preliminary Survey* of some of the results of the above research has been published in a previous number of this journal (166).—ED. "M.'s B."]

Owing to the similarity between some of the physiologic effects of COCAINE and of PHENOL (Carbolic Acid), I conceived the idea, more than a year ago, of combining these two substances. There were two additional reasons, however, for my desiring to make an investigation of this particular COCAINE-salt—the PHENATE, as prepared by MERCK, [*instead of using a mere extemporized mixture* of, say Cocaine Hydrochlorate with Phenol (167)]; to wit:—

In the first place, with Cocaine Hydrochlorate, a feeling of constriction in the throat, indicative of its physiologic action, quickly survened,—giving evidence of its *rapid general absorption* and of the consequent *danger of intoxication;* in the second place, the *Hydrochloric Acid* in Cocaine Hydrochlorate acts *no useful part* at all.

On the other hand, PHENOL—as above referred to—has, apart from its antiseptic action, *the same kind of local effect as Cocaine.*

Let us consider this effect. *If a concentrated solution of Cocaine be applied to the conjunctiva, or the nasal or pharyngeal mucous membranes, these parts turn pale in one or two minutes,*—that is to say, they become partly bloodless. *Local anesthesia develops about five minutes later,*—that is, after

(166) MERCK'S BULLETIN, 1890; p. 10.

(167) *Compare:* "The Prevention of the Toxic Effect of Cocaine,"—MERCK'S BULLETIN, 1890; p. 86.—ED. "M. B."

the nutrition of the peripheral nerve-terminations has been impaired for some time. On the cutis, this effect is less distinctly noticeable.

That it is the **Distribution of the Blood** which is *primarily* affected, can readily be demonstrated by a simple experiment which I made repeatedly. *Women* (with or without Migraine), *whose menstruation was regular, invariably bled more profusely and prolongedly, upon their foreheads being painted with Cocaine at any time during the menstrual period.* A similar occurrence, less prompt, however, has been repeatedly observed with Hemorrhoids and Varices. The application of Cocaine to the mucous membranes of the respiratory tract, increases the congestion of the varicose tissue and the pain in these parts. In a case of pregnancy, the painful varices of the left leg were painted with COCAINE PHENATE, and a rubber bandage was applied. While the suffering became tolerable on the left side in consequence of this treatment, small varices and corresponding pains developed on the right side.

Upon Cocaine being applied to the gastric mucous membrane in another case, blood appeared in the sputum; upon applying it in the urethra, in still another, nosebleed survened. An employee of E. MERCK'S CHEMICAL WORKS at Darmstadt is known to get an exanthem on his face whenever he has been occupied for some time in weighing out Cocaine. I myself often got urticaria on various remote parts of the body, from rubbing-up COCAINE PHENATE with my hands.

All these are symptoms which have been observed equally from Cocaine Alkaloid, Cocaine Hydrochlorate, and COCAINE PHENATE, and which, though by no means of frequent occurrence on the whole, still always took place under such circumstances that they had to be referred directly to the action of the COCAINE.

—*If we now turn to* PHENOL, we observe, as "congestions in opposite places," *pneumonias* after poisoning from its absorption in the *stomach.* Upon applying a solution of Phenol even as weak as 4 or 5% to mucous membranes, *local anemia and anesthesia both* survene. In chronic inveterate ulcers, the patients, of their own accord, always resort again to Phenol dressings, because these at least dispel the pain. Everyone who has washed his hands repeatedly in Carbolic-acid water on any morning, is acquainted with the numbness of the fingers resulting for the rest of the day. At the same time, an increased psychic excitability is noticeable,—similar to that produced by repeated small doses of Cocaine.

In view of this physiological similarity between COCAINE and PHENOL, these substances, when combined, must strengthen each other's action. Such considerations, together with the antiseptic properties of Phenol, probably induced VIAU ([168]), as early as 1887, to employ COCAINE PHENATE as a LOCAL ANESTHETIC IN DENTAL OPERATIONS ([169]).

I took up this substance in the fall of 1889 (*independently of* VIAU, of whose experience I knew nothing at the time),—employing it since then, whenever permissible, in all ailments characterized by *local congestion* and accessible for topical treatment.

One physical property of COCAINE PHENATE most favorable to its therapeutic action,—although causing quite some difficulty in its application,—is its practical *insolubility in water*.

In consequence hereof, the medicament *cannot be washed away very readily from the site of application* by the lymph-current: in consequence, its local action is *more intensive and prolonged*. While the local effect of Cocaine Hydrochlorate in concentrated *large doses* does not exceed 7 *hours'* duration, that of COCAINE PHENATE MERCK, in doses of 1 centigramme [1/6 grain] and less, *persists for more than* 36 *hours*,—as was proved most beautifully by my numerous cases of Gastric Catarrh. Furthermore, even *very small doses of* COCAINE PHENATE MERCK *have effect*, because, in consequence of its insolubility, the preparation is not carried away readily. On the other hand, *excessively large doses* of it,—1 gramme [15½ grains], for instance,—*are not prone to produce toxic symptoms;*—I, at least, never observed such strong deglutitional spasms and such psychic excitation from COCAINE PHENATE MERCK, as I did from what would be called large doses—0.2–0.3 gramme [3–4½ grains]—of Cocaine Hydrochlorate. This fact is of special value in the topical application of Cocaine by the brush, etc., in which the dosage cannot be regulated with exactness,—particularly when the manipulation has to be intrusted to laymen.

—*On the skin*, COCAINE PHENATE SOLUTIONS are generally *preferable to the ointment form*, because the latter is efficacious only when made with pure LANOLIN: the addition of other fats or of Glycerin impedes the action of the COCAINE PHENATE until they have been taken up by the epidermis. When the skin is injured—as for instance in *Ulcus cruris*—painting with

(168) *Les Nouveaux Remèdes*, 1887; p. 192.

(169) *For a more detailed report* on the use of COCAINE PHENATE in Dentistry, *see* MERCK'S BULLETIN, 1890; p. 10.

1-10% alcoholic solutions of COCAINE PHENATE MERCK, affords relief; the cures effected being ascribable, however, rather to the simultaneous application of the elastic bandage. For the last half year, I have made it a point to paint these ulcers, *after* the COCAINE-PHENATE application, with a 10% solution of BLUE PYOKTANIN in Dilute Alcohol, then to let the spot dry, and finally apply a rubber bandage previously steeped in warm water. This procedure, repeated daily, almost always effected a cure in about a fortnight.

Where the skin has been destroyed by a BURN, the effect of COCAINE PHENATE is more distinctly noticeable. Painted daily, these lesions heal *rapidly* and with but moderate pain; leaving rather smooth scars, devoid of disagreeable cicatricial streaks.

RHEUMATIC PAINS in any of the superficial muscles, as well as NEURALGIC PAINS, were dispelled by painting the skin *directly over the painful parts* with COCAINE-PHENATE solution. A *wonder effect* was had by painting the skin overlying the *trunk of the nerve* going to the painful spot.

In CARDIALGIA and PERITONITIS likewise, painting with COCAINE-PHENATE solution brought relief.

In NEURALGIC HEADACHES, there is particularly good action from COCAINE PHENATE; while in SCIATICA it is of little effect.

In dispensary patients we can observe the fact that the action of COCAINE PHENATE is *much weaker in the dependent parts* than in the upper parts of the body,—because *its action is probably based on a paralysis of the vascular dilators*, which cannot cause any degree of comparative ischemia in the dependent parts on account of the opposing weight of the blood.

COCAINE PHENATE manifests *no* permanent influence on the annoying sensations of various extensive cutaneous affections, as—for instance—Psoriasis.

On the other hand, COCAINE PHENATE *is of inestimable value in all acute and chronic* **Catarrhal Affections**, *except those of the Genito-Urinary apparatus.* In the latter, the most concentrated solutions—even pure COCAINE PHENATE—are capable of producing but *very transient* palliation; and a *continued attempt* at Cocaine treatment *in this class of affections* could, therefore, but result in turning acute cases into chronic ones, or, in producing chronic Cocainism in cases already chronic.

*In no other class of affections, however, did I ever see Cocainism* induced by the use of COCAINE PHENATE!

In the treatment of *all varieties of* Catarrhs, *outside* of the Uro-genital class, I employed COCAINE PHENATE MERCK with *most favorable effect*.—whether by light or by heavy dosage. The forms of exhibition were:—COCAINE PHENATE *pure*, or 5-10% *Solutions* in Alcohol or Spirit of Ether, or 1% solutions in 30% Alcohol.—for PAINT or for INSTILLATION. For INSUFFLATION, 5-10% *Triturations* of COCAINE PHENATE MERCK with ANTIFEBRIN (*no other excipient to be added!*).

In *Nasal* and *Tubal* Catarrhs, BORIC ACID was advantageously substituted for the Antifebrin as an excipient and adjuvant in the above triturations.

In CONJUNCTIVAL CATARRH, all of the forms above-mentioned (*including* the *pure* substance) were given trial *by instillation*.—[*See details* in previous publication in this journal, *as noted above*.—ED. "M.'s B."]—For a moment, a strong burning sensation survenes, which necessitates closing the eyes. However, a second and a third application, at intervals of 5 minutes, are no longer painful, and are capable of breaking up the affection in acute cases. If this result be not attained by the initial applications, they must be repeated, say, at intervals of 12-48 hours.

NASAL CATARRHS were broken up *by snuffing* the COCAINE-PHENATE-and-ANTIFEBRIN or COCAINE-PHENATE-and-BORIC-ACID powders, above described.—[*See, also*, previous communication.—ED.]—In cases where the nasal passages are completely occluded, and in little children, a few drops of a COCAINE-PHENATE solution are *instilled into the nose*, with the head low down; or the part is first cleansed by means of a camel's-hair pencil moistened with the solution.

In babes, in particular, very threatening Nasal Catarrhs may develop: the patient drinks neither from the breast nor from the bottle, simply because it is impossible on account of the stopped-up nose; while crying continually from thirst and hunger. The parents often regard the very sick child as beyond rescue, but nevertheless urge the doctor to at least relieve the severe pains. The physician who will, in such a case, proceed in the manner above described and thereby arrest the catarrh, may be sure of gaining the parents' confidence.

1-10% alcoholic solutions of COCAINE PHENATE MERCK, affords relief; the cures effected being ascribable, however, rather to the simultaneous application of the elastic bandage. For the last half year, I have made it a point to paint these ulcers, *after* the COCAINE-PHENATE application, with a 10% solution of BLUE PYOKTANIN in Dilute Alcohol, then to let the spot dry, and finally apply a rubber bandage previously steeped in warm water. This procedure, repeated daily, almost always effected a cure in about a fortnight.

Where the skin has been destroyed by a BURN, the effect of COCAINE PHENATE is more distinctly noticeable. Painted daily, these lesions heal *rapidly* and with but moderate pain; leaving rather smooth scars, devoid of disagreeable cicatricial streaks.

RHEUMATIC PAINS in any of the superficial muscles, as well as NEURALGIC PAINS, were dispelled by painting the skin *directly over the painful parts* with COCAINE-PHENATE solution. A *weaker effect* was had by painting the skin overlying the *trunk of the nerve* going to the painful spot.

In CARDIALGIA and PERITONITIS likewise, painting with COCAINE-PHENATE solution brought relief.

In NEURALGIC HEADACHES, there is particularly good action from COCAINE PHENATE; while in SCIATICA it is of little effect.

In dispensary patients we can observe the fact that the action of COCAINE PHENATE is *much weaker in the dependent parts* than in the upper parts of the body,—because *its action is probably based on a paralysis of the vascular dilators*, which cannot cause any degree of comparative ischemia in the dependent parts on account of the opposing weight of the blood.

COCAINE PHENATE manifests *no* permanent influence on the annoying sensations of various extensive cutaneous affections, as—for instance—Psoriasis.

On the other hand, COCAINE PHENATE *is of inestimable value in all acute and chronic* **Catarrhal Affections,** *except those of the Genito-Urinary apparatus.* In the latter, the most concentrated solutions—even pure COCAINE PHENATE—are capable of producing but *very transient* palliation; and a *continued attempt* at Cocaine treatment *in this class of affections* could, therefore, but result in turning acute cases into chronic ones, or, in producing chronic Cocainism in cases already chronic.

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In adults, a certain **Difficulty of Hearing**, often supervening in consequence of *Chronic Tubal Catarrhs*, can be treated most successfully by *insufflating* a quillful of the COCAINE-PHENATE-and-ANTIFEBRIN or COCAINE-PHENATE-and-BORIC-ACID powder; or, sometimes, even by using these powders as an *errhine*.

(For the insufflation, a ZWAARDEMAKER'S Tube ([170]) may best be used; or, in its default, a piece of quill, cut away slanting at the point.)

In CATARRHAL PHARYNGITIS, painting with a solution of COCAINE PHENATE MERCK is eligible for breaking up the attack; whereas, in LARYNGITIS, the same purpose is often accomplished more easily by *insufflating* the COCAINE-PHENATE-ANTIFEBRIN combination.

In CATARRHAL AFFECTIONS OF THE TRACHEA and its branches, the *inhalation* method is to be recommended,—for which purpose I usually add 10% MENTHOL to the COCAINE-PHENATE solutions as an adjuvant.

IRRITATING COUGHS accompanying pulmonary affections, I treated in the same manner with the uniform result of effecting a cure in simple catarrhal affections, and of affording relief in cases of a severer nature.

**For Inhalation**, *the stronger Solutions of* COCAINE PHENATE *must not be used* on account of the danger of spasm in the throat and consequent venous congestion of the abdomen.

I *did not yet try* the preparation in PERTUSSIS.

TONSILLITIS is deprived of its dangerous symptoms just as promptly by *painting* with a solution of COCAINE PHENATE MERCK, as by a large dose of ANTIFEBRIN.

But it is principally in various **Gastric Affections** that COCAINE PHENATE is *a most excellent remedy*,—*far superior* to Cocaine Hydrochlorate. In this class of diseases, the COCAINE-PHENATE-ANTIFEBRIN combination, or COCAINE PHENATE triturated with Milk-sugar, is most serviceable,—best administered in *Gelatine Capsules*, or enveloped in "*Usego*" ([171]), (*in order to prevent its contact with the mucous membrane of the mouth and the consequent impairment of its action on the part affected*), in doses representing 5 milligrammes [$\frac{1}{12}$ grain] of COCAINE PHENATE MERCK. It is most efficacious when administered on an empty stomach,—about an hour before breakfast.

(170) *Nederl. Tijdschr. voor Geneeskunde*, 1889, II; p. 653 *et seq.*

(171) *Usego* = JAPANESE BIBULOUS PAPER;—*see* MERCK'S BULLETIN, 1890; p. 151.

ACUTE GASTRIC CATARRHS were broken up by administering daily, for two consecutive days, 1–2 gelatine capsules, each containing 5 milligrammes [$\frac{1}{12}$ grain] of COCAINE PHENATE MERCK.

In CHRONIC GASTRIC CATARRHS, VOMITING OF PREGNANCY, MORNING VOMIT, and CARDIALGIA, I administered the above dose with almost invariably the *promptest results:* all the symptoms disappearing mostly on the first day of treatment. When the initial dose was insufficient, I repeated it *after a day's interval.*

In CANCER OF THE PYLORUS, amelioration was obtained from 0.005–0.01 gramme [$\frac{1}{12}$–$\frac{1}{6}$ grain] doses of COCAINE PHENATE MERCK, combined with 0.1 gramme [1½ grains] of CONDURANGO: the swelling at the pylorus was in several instances reduced sufficiently to permit of the passage of food into the intestines.

Even EPILEPSY, in two patients who had previously gone through some *gastric affection*,—probably Round Ulcer,—was cured by COCAINE PHENATE MERCK. In one of them the epileptic attacks recurred regularly every 8 weeks, always on Saturday. He had been treated unsuccessfully with Bromine for some time, by another physician. I administered one capsule of COCAINE PHENATE MERCK daily—before breakfast—for 14 days prior to each critical Saturday, with the result of *postponing* and *considerably moderating* the first two subsequent attacks, and of *preventing them entirely* after that.

—Unfortunately, the INTESTINES cannot be reached with certainty for local therapy; for even the *keratinizing* of a medicament does not absolutely preclude its solution in the stomach.

—I succeeded several times in breaking up also *other local inflammatory processes*—such as PLEURISY—by *subcutaneous injections* of COCAINE PHENATE MERCK; but, later-on, the site of injection became painful.—The same is true of PNEUMONIA, SCIATICA, etc.

—*I have not, as yet, found a solvent* suitable for this mode of administration of COCAINE PHENATE.

> [***N. B.***—COCAINE PHENATE is but *slightly soluble in Cold Water;* this solubility, in the case of *Hydro-alcoholic* solutions, is increased by *heat;* which, however, *should not touch the boiling-point.*—A solution of COCAINE PHENATE in *Absolute Alcohol* can be *largely diluted with Anhydrous Glycerin*, without precipitation.—ED.]

—The number of minor SURGICAL OPERATIONS I performed under COCAINE PHENATE *anesthesia* is too small, so far, to draw conclusions from.

# THE NEWER ANTIPYRETICS.

## Their Action and Dosage in Children.

In the *Twenty-seventh Annual Report* of the JENNER HOSPITAL FOR CHILDREN, at Berne, Prof. DEMME, after discussing the action and the dosage of the most important of the Newer Antipyretics, with reference to children's ages, concludes, as follows :

" *Transient* elevation of temperature up to 39.5° C [103.1 F] needs *no* antipyretic medication; but in cases of a *persistent* temperature of 40° C [104 F], *Antipyretics are indicated.*

" However, *they should be avoided* in DIPHTHERIA, ACUTE EXANTHEMATA, and SIMPLE CROUPOUS PNEUMONIA; but *should be employed*, on the other hand, in TYPHUS, ARTICULAR RHEUMATISM, BRONCHO-PNEUMONIA, and TUBERCULOSIS.

" In pronounced ACUTE POLYARTHRITIS RHEUMATICA, **Sodium Salicylate** is most eligible, if the digestive organs permit; and **Salol** in cases where there is marked sensitiveness to disagreeable taste, or a tendency to vomiting, or to diarrhea.

" The *permissible daily dose* of SODIUM SALICYLATE is :

| | | | | | |
|---|---|---|---|---|---|
| Age | 2– 4 | years: | —0.5–1 | gramme | [ 7½–15 grains]; |
| " | 5–10 | " | 1–2 | " | [15 –30 " ]; |
| " | 11–15 | " | 2.5–3 | " | [38 –46 " ]. |

" Of SALOL, the *permissible single dose*,—3 or 4 times daily, in the form of powders,—is :

| | | | | | |
|---|---|---|---|---|---|
| Age | 2– 4 | years: | —0.25–0.35 | gramme | [ 3¾– 5 grains]; |
| " | 5–10 | " | 0.5 –0.75 | " | [ 8 –12 " ]; |
| " | 11–15 | " | 0.75–1 | " | [12 –15 " ]. |

" In TYPHUS ABDOMINALIS, **Thalline Sulphate** renders good service. It is given every 2 hours, as follows :

| | | | | | |
|---|---|---|---|---|---|
| Age | 3– 4 | years: | —0.01 | gramme | [⅙ grain]; |
| " | 5–10 | " | 0.02 | " | [⅓ " ]; |
| " | 11–15 | " | 0.03–0.05 | " | [½–¾ " ]. |

" In protracted BRONCHO-PNEUMONIA,—so prone to relapse and oft causing high temperature,—**Antipyrine** is recommended in the first stage of the repeated relapses. It is dissolved in water, with the addition of sugar and a few drops of cognac,—best repeated hourly until 2 or 3 doses have been given. The dose is:

Age 2– 4 years:—0.2–0.4 gramme [ 3– 6 grains];
" 5–10 " 0.5–0.75 " [ 8–12 " ];
" 11–15 " 0.8–1 " [12–15 " ].

"*Later-on* in Broncho-pneumonia, when there is that well-known *hectic fever-curve* with evening exacerbations and morning remissions, *Antipyrine and the other new Antipyretics are of little service.* On the other hand, **Quinine** has then an excellent effect. It should be given as follows:

Age 2– 4 years:—0.2–0.4 gramme [ 3– 6 grains];
" 5–10 " 0.5 " [ 7½ " ];
" 11–15 " 0.75–1 " [12–15 " ].

"The *prominent antipyretic action* of **Antifebrin** seems to *surpass that of all the other Antipyretics* in HYPERPYRETIC TUBERCULOUS PULMONARY PHTHISIS, and is capable, often, of rendering these cases *entirely afebrile* for 2–3 days at a time. It was administered 1–3 times daily as follows:

Age 2– 4 years:—0.05–0.075 gramme [ ¾–1⅛ grains];
" 5–11 " 0.1 –0.2 " [1½–3 " ];
" 12–15 " 0.2 –0.3 " [3 –5 " ].

"ANTIFEBRIN *provokes exanthemata much less frequently than* ANTIPYRINE. However, in two cases, an eruption was observed to follow the use of ANTIFEBRIN, similiar to the Antipyrine exanthema.

"**Phenacetin** (PARA-ACET-PHENETIDIN) also manifested a favorable antipyretic action, *without*, however, exercising any influence on the specific pathologic process. *Single large doses* had a prompter effect than repeated 2–3 hourly, small ones. *Single doses* were administered:

Age 2– 4 years:—0.1–0.2 gramme [1½–3 grains];
" 5–11 " 0.2–0.5 " [3 –7½ " ];
" 12–15 " 0.5 " [ 7½ " ].

"*At times*, perspiration, a measle-like rash, and cyanosis of the cheeks and mucous membranes were observed as *untoward accessories.*

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***Ethylene Bromide** (ETHYLENE [*Ethene, Elayl*] BI-BROMIDE; *Di-brom-ethane*)—[*See* "MERCK'S INDEX," p. 48.]—as an **Anti-epileptic.**—In a paper entitled "ETHYLENE BROMIDE, A NEW ANTI-EPILEPTIC," read before the ROYAL MEDICAL ASSOCIATION at Budapest, April 18th, 1891, Dr. JULIUS DONATH reports ([172]) on his experience with ETHYLENE BROMIDE n the treatment of Epilepsy.

(172) *Wiener Medizinische Presse*, 1891; No. 21.

The sedative action of Potassium Bromide has been variously ascribed by different authors to the Bromine, to the Potassium, or to both of its components. Dr. DONATH started out with the idea that the *Bromine* plays an essential part,—which, by the way, is largely proved by the efficacy of the other alkaline bromides. Potassium Bromide, used *continuously in large doses*,—which is unavoidable in Epilepsy,—produces a series of disagreeable effects, manifesting themselves most usually on the skin, the mucous membranes, in the nervous system, and in a general disturbance of nutrition. It therefore appeared desirable, in the mind of the lecturer, to administer the Bromine *in the form of a suitable Carbon-compound*, a so-called "organic" combination, in order to avoid the introduction into the system, of considerable quantities of alkalis, which certainly cannot remain indifferent toward the organism. The action of the Bromine carried by such a combination, *readily oxidizable* in the circulation, was expected to develop *more purely* and *more strongly*,—"*in statu nascendi*," as it were,—not being counteracted by the strong affinity of the Bromine toward the alkali-metal. For the purpose of testing this theory by experiment, ETHYLENE BROMIDE—$C_2H_4Br_2$—was chosen;—*not to be confounded with* ETHYL BROMIDE ("Hydrobromic Ether," *Mono*-brom-ethane), previously described in this journal ([173]).

ETHYLENE BROMIDE is described as a slightly brownish fluid, resembling Chloroform in consistency; of a sweetish, subsequently burning taste. It solidifies at 0° C [32 F], forming a snow-white crystalline mass; boils at 131° C [267.8 F]; has a specific gravity of 2.163 at 21° C [69.8 F]; and contains 90.9% of Bromine. It is *insoluble in water*, but soluble in alcohol in every proportion, and forms with fatty oils—such as Expressed Oil of Almonds—a solution clear as crystal.

On account of its insolubility in water, ETHYLENE BROMIDE is administered in the form of a 5% emulsion, in some such formula as the following:

> ETHYLENE BROMIDE, 5 grammes [about 35 minims]; (‡) *Emulsio oleosa*, 95 grammes [3¼ fl. ozs.]; Peppermint Oil, 2 drops.—

Of this emulsion-mixture, *adults* take 30 drops in a small wineglassful of sugar-water, 2–3 times daily,—increasing the dose, every third day successively, to 40 drops, then to a coffee-spoonful (about 50 drops), and then to

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([173]) MERCK'S BULLETIN, 1888; p. 15;—1889; p. 23;—1890; p. 25;—1891; p. 1.

(‡) EMULSIO OLEOSA of European pharmacy consists of 2 parts Expressed Oil of Almonds, 1 part Powdered Acacia, and 17 parts Water.

a teaspoonful (about 70 drops). *Children* 8–10 years of age begin with doses of 10–20 drops, twice daily.

The above-stated adult doses of this emulsion-mixture correspond to 0.1–0.3 gramme [¾–2¼ minims] of ETHYLENE BROMIDE, 2–3 times daily. It is absolutely necessary to dilute the mixture with water or milk, to avoid irritating effects on the stomach. In cases with very sensitive stomachs, 0.1–0.2 gramme [1½–3 grains] of Aqueous Extract of Opium may be added to the above formula, at the outset. *Neither toxic symptoms nor Bromine Acne* were ever observed after its absorption.

Another good formula is the following:

> ETHYLENE BROMIDE, 5 grammes [35 minims]; Alcohol, 5 grammes [1½ fl. drs.]; Peppermint Oil, 2 drops.—5–10–15 *drops in milk, well-stirred, 2–3 times daily.*

In very sensitive individuals, *gelatine capsules* are admirably adapted for use, if the remedy is given with Oil of Almonds,—3 drops of ETHYLENE BROMIDE and 6 drops of Oil of Almonds *to each capsule;* 2–4 of these to be taken two or three times a day.

The lecturer had thus far employed ETHYLENE BROMIDE in 21 cases of GENUINE EPILEPSY, with *encouraging results:* the convulsive attacks became *rarer*, *shorter*, and *milder*, as a rule,—quite frequently *assuming the mild forms of "petit-mal" or of "les absences,"* or even *the abortive form* of muscular twitchings *without disturbance of consciousness.*

In one case, the appearance of Aura was observed, which had never before existed; this may well be regarded as a considerably modified form of the attack. In several other cases there was less exhaustion and dulness after the attack,—the patients recuperating more rapidly and regaining the ability and inclination for work more quickly.

However, it is yet too early to render a *conclusive* opinion on ETHYLENE BROMIDE, as compared with the long-tested Potassium Bromide: *in some cases the former decidedly surpassed the latter* in efficacy. Even if ETHYLENE BROMIDE should prove to be only on a par with, or even inferior to, Potassium Bromide in effect, it might often prove *serviceable as a substitute* for Potassium Bromide when the latter has to be discontinued for any reason,—be it that tolerance has been established by long-continued use, or on account of disagreeable by-effects.

—The efficacy of ETHYLENE BROMIDE would appear to establish the

pharmaco-dynamically important facts that *Bromine in itself*, in suitable chemical combination, suffices to do anti-epileptic work, and that for the the latter purpose not only the Potassium, but the alkalis generally, are superfluous. In a disease as chronic and variable as Epilepsy, it is desirable to have as many observers as possible test the remedy in an extensive array of cases, and to have them publish their results.

—In the discussion on the above paper, Dr. GUSTAV OLAH remarked that for 2½ months he had employed ETHYLENE BROMIDE in a vast number of patients at the GOVERNMENT ASYLUM FOR EPILEPTICS, at Engelsfeld, which is under his direction. In the ENGELSFELD INSTITUTION, 5000–6000 attacks of Epilepsy occur annually.

Among the numerous remedies which Dr. OLAH had employed, ETHYLENE BROMIDE proved particularly *excellent:* the attacks becoming more seldom and milder.

In Dr. OLAH's experiments, patients having from 1–2 attacks daily were selected.

*Subcutaneous injections* of ETHYLENE BROMIDE were also tried, and did *excellently.*

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* **Apo-morphine Hydrochlorate,**—**Its Aqueous Solubilities.**—Various Pharmacopœias of older date erroneously direct a degree of *Aqueous Solubility* for this salt, which is *not attainable* in the **CRYSTALLINE** variety—[*See* "MERCK'S INDEX," p. 20.]—of the latter. Thus, the **U. S. Ph.** requires it to dissolve in 6.8 parts of Water at 15° C [59 F], while the **Brit. Ph.** allows 7 parts. The new **Hungarian Ph.**, on the contrary, allows 30 parts of Water for solution; while the **Pharm. Germ. III.** allows 40. This latter figure certainly covers *the actual aqueous solubility-limit* of the CRYSTALLIZED SALT; whereas the U. S. Ph. figure of "6.8" *does not.*

—There is, however, also *a non-officinal* variety of APO-MORPHINE HYDROCHLORATE in the market,—the **AMORPHOUS**–[*See* "MERCK'S INDEX," p. 20.]–which differs in its solubilities from the Crystallized (officinal) Salt.—The AMORPHOUS APO-MORPHINE HYDROCHLORATE is *quite readily soluble in Cold Water.*

—*Errors of statement* in regard to these solubilities—like the one above quoted from the U. S. Pharmacopœia—may readily arise from a *confusion of the Amorphous and Crystallized* Apo-morphine Salts.

## Compounds Not Described Therapeutically.

—[CONTINUED FROM MARCH NUMBER.]—

* **Iodine Cyanide,**—I C N.—White, laminated crystals, which readily turn red; easily soluble in ether and in alcohol, less so in water.

* **Iron Boro-lactate.**—Greenish powder, *soluble* in water.

* **Iron Bromo-lactate.**—Slightly yellowish, hygroscopic, crystalline powder.

* **Lead Aceto-tartrate.**—White or translucent crystals, *clearly soluble* in water.

* **Lead Oxy-chloride, chem. pure, powder,** is of a yellow color and insoluble in water, etc.

* **Lithium Fluoride, pure,**—Li Fl.—Colorless, imperfectly crystalline powder, difficultly soluble in water.

* **Mercury and Zinc, Acetate.**—Whitish, *water-soluble* powder.

* **Mercury bi-Chromate.**—A beautifully red, heavy, crystalline powder, not soluble in the ordinary solvents. Heat decomposes the salt, metallic Mercury being surrendered.

# SELECTIONS.

### PYOKTANIN, THE NEW CURE FOR CANCER. (174)

*J. H. LOWREY, M. D., New York.*

In December last, experiments with the BLUE PYOKTANIN in Cancer were instituted at the NEW YORK SKIN and CANCER AND CHARITY HOSPITALS. The results of these experiments demonstrate that in hopeless cases of carcinoma and epithelioma, this agent systematically applied not only *relieves the excruciating pains* usually present, but *deodorizes the fœtor* emitted from the ulcerated surfaces. Its anæsthetic properties are quite pronounced, more permanent than Cocaine, *engendering no constitutional disturbances*, as is frequently observed with the use of the latter. The *modus operandi* of its action is explained as follows: PYOKTANIN possesses great permeative power. Injected into the tissues, it diffuses itself at once. It has a peculiar penchant for neoplastic growths, and by its action on the nuclei of the cells, renders them sterile and non-proliferating. The nutrition and vitality are impaired, and conse-

(174) *The Medical and Surgical Record*, 1891; p. 94.

quently the growth of the tumor checked. The experiments conducted at the hospitals mentioned, by Prof. WILLIE MEYER, give promise of fruitful results. Quite large tumors injected subcutaneously, but deeply, with PYOKTANIN, (as you would with Cocaine), were extirpated without pain. The now established antiseptic power of PYOKTANIN makes it more useful in minor surgery, as its diffusive and anæsthetic action does not retard but rather promotes reconstruction of healthy tissue. Cocaine acts conversely. By constringing the capillary arteries, it at first drives the blood out of the parts, and as its action subsides, relaxation of the capillary walls ensues and consequent hyperæmia bordering on congestion. This explains the secondary hemorrhages generally observed in operations performed under Cocaine, especially in tissues very vascular, like the nose and throat.

In rodent and indolent ulcers, the action of PYOKTANIN is no less marvelous. Curette the ulcer and apply ½ per cent alcoholic solution or ointment. The ulcer heals at once. Fissures of the anus may be treated with the pencil. The distressing pains disappear as by magic and a few applications restore the abraded parts.

Fibroma injected deeply and thoroughly with PYOKTANIN will shrink and atrophy, lose its agressive character, and show signs of absorption. The striking feature of its action is its affinity for neoplasms, in preference to the healthy tissue, its destructive action on such growths, and at the same time preventing their decomposition. It can be given internally with impunity, and it is noticed that the urine voided by such persons will not decompose for many days. For subcutaneous instillation the strength used is 1-300. No unfavorable symptoms by its injection have been noticed. One case of fibroid in which it was used as described, has decreased two-thirds from its former size, and that in a period of seven weeks.

More recent experiments not only confirm my former reports but establish the fact that in this substance we possess a most potent agent in all malignant tumors, accessible to local treatment.

Prof. MEYER detailed the history of a case of sarcoma, of the large round-cell variety, which is the most rapid in growth and pernicious in character, in which he has been using persistently every second or third day deep subcutaneous injections of PYOKTANIN. The tumor not only ceased growing, but began to shrink. A section was made into the body, when it was found, to the delight of the surgeons present, that around the parts of injection, it not only had lost the physical character of sarcoma, but microscopically it presented the homogeneous cells of a simple fatty tumor. Another section was made where the agent had not reached, and the small fragment removed showed the distinctive features of sarcomatous tissue. *The action is truly marvelous.*

Its instillation is painless, and in carcinoma, its action is palliative. *It excels any known remedy in relieving local pains of malignant growths.* Its established antiseptic powers prevent infection and decomposition. I would advise its use in all incurable cases of neoplastic growths where local treatment is possible. It has no toxic effects, constitutionally, and may be used with impunity, if used judiciously.

## PYOKTANIN IN OPHTHALMIATRY AND MINOR SURGERY. (175)

*By F. C. HOTZ, M. D., Chicago.*

To test PYOKTANIN for its germ-destroying (disinfecting) power, I selected suppurative affect ons of the cornea (abscess, hypopyum-keratitis, serpiginous ulcer) and cases of gonorrhœal conjunctivitis. In the gonorrhœal cases (4) the YELLOW PYOKTANIN was used in solution (1:100) and freely dropped on the cornea and conjunctiva three times per day. *Its action was really grand;* in every case there was a decidedly improved condition within the first 24 hours; the purulent discharge was quickly changed to an inoffensive mucus, and where the cornea was involved, the progress of the ulceration was checked at once.

In one case, for instance, both eyes were affected; the disease had first started in the left eye and its cornea was completely destroyed; but the safety of the right eye was also being seriously threatened by a long and deep progressive ulcer at the upper border of the cornea when I saw the case. The lids were œdematous, the conjunctiva red and swollen, and a copious discharge of purulent secretion. The eyes had been previously treated with iced compresses, sol. of bichloride, and the past five days with silver nitrate. But for all that the left eye was lost and the right eye was on the point of suffering the same fate. But twenty-four hours after the PYOKTANIN solution had been used the lids were smaller, the discharge reduced in quantity and changed in quality, and the corneal ulcer had not made any further progress. In another day the secretion had lost its puriform character entirely, and in ten days the corneal ulcer was healed and the lids and conjunctiva had recovered a normal condition.

My cases were all past the earliest stage; the youngest one was three days old and the pus discharge already fully developed. But in three days this was changed by the PYOKTANIN treatment to a very slight secretion of pale, thin mucus. The PYOKTANIN was then discontinued and the pus secretion did not return, although the chemosis of the conjunctiva, which was unusally intense from the beginning, did not subside for a whole week.

In corneal suppuration (twelve cases) PYOKTANIN either in solution (1:100) or in powder, always promptly arrested the march of destruction and caused a quick absorption of any hypopyum.

In order to see whether PYOKTANIN has any bad effect upon the corneal epithelium I applied it to a few corneas with diffuse opacities. I thoroughly rubbed it into the cornea every day and kept it up for a whole week; but except a very transitory irritation *these eyes showed no bad effect;* their corneal tissue remaining absolutely undisturbed.

I think the better plan of treatment in these corneal affections is to apply the PYOKTANIN in substance directly upon the suppurating area instead of using the solution, because by the former way we can most thoroughly impregnate the pus infiltrate and consequently more certainly reach all the pus germs.

The results of our PYOKTANIN treatment of these corneal affections *compare very favorably with the electro-cauterization and the sublimate lotions.* To say the least, it

(175) *Western Medical Reporter*, 1891: p. 5.

arrested the suppuration as promptly as either of them would under similar circumstances. And when we consider that the application of PYOKTANIN has to be made only once a day while the sublimate lotion must be used every hour; and that the PYOKTANIN causes no pain, while the electro-cauterization is very painful, even under cocaine, and certainly very repulsive to the patient, we may feel disposed to give PYOKTANIN the first place in the treatment of hypopyum-keratitis and allied affections.

The question, "Does PYOKTANIN keep a wound aseptic as well as or even better than other antiseptics?" was tested in operations for entropium of the upper lid and for relieving the abnormal tightness of the palpebral opening (canthoplasty). The operations were performed under antiseptic precautions, and after the wound had been closed with aseptic silk sutures, the PYOKTANIN was applied along the wound. At first I used the solution (1:100); in the last six cases, however, the powder was dusted first on the line of the united wound-edges. *No dressing of any kind was used;* only the application of PYOKTANIN was repeated once in twenty-four hours. On the third day (in some cases on the fourth day) the sutures were removed. Primary union resulted in all cases (twenty-five in number), and *no pus was found* in the stitch-holes, the black silk being as clean and dry as it was when put in.

We must, therefore, assume that PYOKTANIN, when applied to the outside, works its way right down into the tissues and makes of the whole depths of the wound a field on which pyogenous germs can not grow. This makes it a very valuable and useful antiseptic, as it certainly increases the comfort of our patients a great deal if we can dispense with all dressings and wrappings.

---

# GATHERED FORMULAS.

14 and 15.—**NEW TREATMENT OF HERPES ZOSTER.**—[BEATTIE ([176]).]

**—Mixture.—**

| | | |
|---|---|---|
| Extract Gelsemium | *of each,* | 4 grammes [1 dram.] |
| Sodium Sulpho-carbolate | | |
| Distilled Water | 90 " | [3 fl. oz.]. |

*Teaspoonful every 2 hours.*

[At the same time 5 drops *Tincture of Belladonna* are administered every 2 hours until a slight dryness of the pharynx is experienced.]

**—Lotion.—**

| | | |
|---|---|---|
| Lead Acetate | *of each,* | 4 grammes [1 dram]. |
| Powdered Alum | | |
| Distilled Water | 120 " | [4 fl. oz.]. |

*Externally!*

[Compresses moistened with this solution are applied to the affected parts, and renewed every 2 hours.—According to the author, pain disappears within a few hours, and the disease is considerably shortened by this treatment.]

---

(176) *Semaine Médicale*, 1891; p. 38.

# STRAY ITEMS.

No. 3.

## METHYL-MERCAPTAN,

$-C_6 H_4 S,-$

is the substance to which the urine voided after eating Asparagus owes its peculiar odor,—as was recently ascertained by NENCKI, after a futile attempt to determine the cause of this peculiar odor had been made before by HILGER ( ‡ ). NENCKI distilled the Asparagus-urine, previously acidulated with Oxalic Acid, over a sand-bath, whereby the escaping gases were passed into a wash-bottle containing a 3% solution of Mercury Cyanide, which *retained* the METHYL-MERCAPTAN. According to Löw ( § ), the mother-substance of METHYL-MERCAPTAN in the shoots of Asparagus is, in all probability, an organic Sulphur combination of simple structure, accompanying the Asparagin.

( ‡ ) *Annalen der Chemie und Pharmacie*, Vol. CLXXI; p. 208.

( § ) *Archiv für Experimentelle Pathologie und Pharmacologie*, Vol. XXVIII; p. 209.

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EXPECTORANT MIXTURE.

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## SYNTHETIC ORGANIC COMPOUNDS.

***Antifebrin by Broken Doses.**—Dr. M. A. FAVRAT reports ([176]) on the use of ANTIFEBRIN in *broken doses* at the MEDICAL CLINIC at Berne. He is opposed to the doctrine of the curative effect of fever, of which there are no positive proofs. The whole doctrine is based upon bacteriological researches on the influence of elevated temperature on bacteria-cultures. It has found one support in the lack of success had with the modern Antipyretics, which have brought discredit upon medicinal antipyresis. But these failures are positively referable, for the greater part, to the fact that the antipyretics are placed into the practitioner's hands without sufficient knowledge of their modes of action, their accessory effects, and their drawbacks. A conscientious investigation—the author continues—must determine to what extent the drawbacks of individual antipyretics can be eliminated by *different methods of employment*. How variously the action of antipyretics manifests itself, is shown in the case of Thalline, which, *in large doses*, is an entirely worthless medicament, while *in repeated small doses*, it is one of the best antipyretics we possess.

—Dr. FAVRAT asserts that it is a universally valid rule to administer antipyretics which act *rapidly*, in *fractional doses*; those slow in action,—as Quinine, for instance,—on the other hand, in *large single doses*. This it was which induced Prof. SAHLI to employ ANTIFEBRIN—a prompt and reliable remedy, but one which under certain circumstances manifests strong drawbacks—*in small, frequently repeated doses*, instead of the customary large single doses.

The experiments made at the Berne CLINIC on 11 patients (8 with Typhoid Fever, and 3 with Phthisis) with 1090 doses of ANTIFEBRIN have shown that "continual antifebrinization"—as the administration of ANTIFEBRIN in small frequently repeated doses is called—is an agreeable and mild method of antipyresis, possessing material advantages over the modes of employment hitherto in vogue. It was demonstrated that 0.05-0.1 gramme-[¾-1½ grain-] doses of ANTIFEBRIN, repeated hourly, completely suffice to materially depress the fever in both the acute period and the de-

(176) "Inaugural Dissertation;" Berne, 1890.

fervescent stage of Typhoid Fever. On the other hand, the action of the small doses administered at intervals of 2 hours, is not sufficient to effect a decided depression of temperature in the acute stage; but in the defervescent stage, it may suffice. True it is, that the fever cannot be *entirely* dispelled by these small doses: but it is moderated, and the patient obtains relief, subjectively.

—The hectic fever of Consumptives can also be successfully combated and relief be afforded to the patient, by repeated small doses of ANTIFEBRIN. The remedy acts *better the higher the temperature.* In Consumptives a dose of 0.05–0.1 gramme [¾–1½ grains] often suffices to reduce the temperature more than 2° C [3.6 F] within 2 hours.

In 2 cases, chills, slight cyanosis and perspiration (several times) survened from this medication: however, these symptoms were far less pronounced than is the case with the customary large doses. There is no real danger connected with these small doses, because it is within our power at any time to discontinue the ANTIFEBRIN upon the slightest appearance of untoward accessory symptoms.

---

*** Ethyl-Pyoktanin in Ophthalmiatry;—and the Extension of "Pyoktanin" Therapy generally.**—Prof. STILLING, of Strassburg, has published a short *preliminary report* (1) on this new pigment, on which occasion he also throws out some new hints on the object and aim of PYOKTANIN medication generally. The essence of his remarks is as follows:

ETHYL-PYOKTANIN (which stains animal tissue *blue*) possesses *the greatest permeant force* of any pigment tested; it dissolves in water in every proportion, and remains in the tissues of the body much longer than all the other pigments. If a drop of a 1:1000 solution of ETHYL-PYOKTANIN be instilled into the eye of a white rabbit, the iris will be blue yet on the following day. If the same solution be injected into the vitreous humor, the blue coloration of the interior of the eye will persist for weeks, without, however, producing any irritation whatever. In the human conjunctiva, the blue coloration remains at least a day.

ETHYL-PYOKTANIN *completely arrests the development of the Staphylococcus pyogenes aureus in culture-bouillon, when added in the proportion of* **1:3,000,000.** Greater dilutions were not used in the Professor's experi-

(177) *Archiv für Experimentelle Pathologie und Pharmakologie*, Vol. XXVIII; p. 352.

ments, because he regarded them as superfluous. The development of *Micrococcus tetragenus* was arrested by the addition of ETHYL-PYOKTANIN in the proportion of 1: 2,000,000; weaker solutions were not tried. Prof. S. had not as yet tested this substance on other pathogenic bacteria, because it is the *Staphylococcus aureus* which is of prime importance.

The results obtained from the use of ETHYL-PYOKTANIN in **Ophthalmologic Practice** are *extraordinarily satisfactory*. Conjunctivitis heals generally in a day; corneal ulcers, as a rule, in 1–2 days,—serious cases naturally requiring a longer time, nevertheless healing in a *very short time* as compared to that required heretofore under the usual methods of treatment.

—Prof. S. has been firmly convinced, by his numerous observations, that in this group of pigments (as represented, so far, by ORDINARY BLUE PYOKTANIN ([178]) YELLOW PYOKTANIN ( ) and ETHYL-PYOKTANIN) we have substances with which a great number of infectious processes can be successively combated. Time will tell whether these pigments can be *introduced into the circulation* with good results. BEHRING'S idea that these pigments are "rendered inert" in the organism "by reduction" cannot be correct, inasmuch as these substances stain the nuclei of the blood-corpuscles, and are eventually eliminated with the urine, *unaltered*. If these pigments appear to be "inert" within the organism, it is due to the fact that they are *rapidly eliminated*. "Immunity"—in the sense in which this term was used in the experiments of BEHRING and KITASATO—cannot, of course, be manifested toward these pigments: for this purpose substances which remain in the organism for a *considerable time* would have to be introduced. On the other hand, wounds can be protected very well against infection as long as the pigmentary covering holds out; this may apply also to certain mucous-membrane injections.

If we are compelled, in the treatment of a certain disease, to depend on the *development-arresting* properties of PYOKTANIN, *a frequently repeated* application is necessary. This is not always the case when only the bactericidal action of PYOKTANIN is aimed-at.

Furthermore, it is of interest to determine whether *the different* PYOKTANINS cannot be *specifically* utilized to advantage in different conditions of disease,—a question which Prof. S. intends to treat minutely in his next and larger publication.

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(178) *See former Numbers* of MERCK'S BULLETIN for details!—*Also*, Note 179 on next page.

—The eminent suitability of the name of "PYOKTANIN" (=[English:] "*Pus-killer*") for this group of pigments has been re-demonstrated, *in still a more extended application* than that suggested by STILLING even; as, from BUCHNER's investigations, it appears that this group of pigments possesses the faculty of *rendering inert not only the pus-bacteria themselves, but also the toxines* (*i. e.*, poisonous emanations) produced by the bacteria.

---

*** Pyoktanin** ([179]) in **Cystitis.**—NENCKI, of Warschau, reports ([180]) on the *successful treatment* of 4 *obstinate cases* of *Cystitis* by means of vesical irrigation with PYOKTANIN solutions. Three of these were cases of *Blennorrhagic* Cystitis; the fourth was *Rheumatic.*

After employing every other possible remedy *in vain*, the author resorted to vesical injections of a 1:1000 and a 1:500 solution of BLUE PYOKTANIN, twice daily, with the happy result of effecting a cure in 10–14 days. As early as on the second day of the treatment, a *marked improvement* was observed.

---

***Guaiacol** (MONO-METHYL-CATECHOL; *Methylic Ether of Pyrocatechin*)—[*See* "MERCK'S INDEX," p. 67]—**Internally, in Surgical Tuberculosis.**—Prof. SCHÜLLER, of Berlin, has made a preliminary report ([181]) on the results of systematic internal use of GUAIACOL in over 100 cases of Surgical Tuberculosis—*Tuberculosis of joints, of lymphatic glands, of bones, of the skin, and of muscles.* The GUAIACOL treatment was sometimes combined with surgical measures; at others (in *Articular Tuberculosis*), with injections of Iodoform-Glycerin.

The anti-tubercular action of GUAIACOL under long-continued (about 8 months') use, the present author established already years ago by experiments on animals. However, his experiments were forced into oblivion by the current of specific anti-bacterial therapy, and remained forgotten till quite recently, when tney were brought to light again by the success which SOMMERBRODT, FRÄNTZEL, and others had with GUAIACOL and with Creasote in the treatment of Pulmonary Tuberculosis.

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(179) Pyoktanin has been described *in this journal* before:—see *May* Number, p. 69; and *references* to previous reports in March No., p. 34 (foot-note 85).

(180) *Bulletin Médical*, 1891; No. 40.

(181) *Wiener Medizinische Wochenschrift*, 1891; p. 1006.

Prof. SCHÜLLER has recently confirmed the anti-tubercular property of GUAIACOL which he claimed for it more than 11 years ago ([18]): in a case of Pulmonary Tuberculosis treated with GUAIACOL, repeated injections of Tuberculin, after the bacilli had disappeared from the sputa and all other symptoms had vanished, no longer produced any reaction whatever; and in another case, the patient regularly improved or grew worse as the GUAIACOL was continued or discontinued.

—Among the number of cases mentioned above, there were 70 of *Articular Tuberculosis.* In the 15 of these in which Iodoform injections were employed simultaneously with the internal GUAIACOL treatment, 9 have thus far been *permanently cured:* motion in the joints is perfectly free and unrestricted, and there is no contracture or shortening. 3-4 injections usually sufficed for a cure. As for the other forms of local Tuberculosis, the excellent results obtained by Prof. SCHÜLLER with the aid of GUAIACOL are of special value scientifically, because the cures were permanent ones—more than 8 years having elapsed in several of the cases since the treatment was abandoned, without any return of the trouble up to the date of this report. As far as could be ascertained, only 2 of all the cases (over 100) died ([183]).

—For *medicinal* use, only the *chemically pure* grade of GUAIACOL should be used, because it alone can be relied-upon for the beneficent behavior ascribed to it by the above-quoted report.

---

## ORGANIC IODINE COMPOUNDS.

***Caffeine di-Iodide Hydro-iodate,** (*so-called* "**Caffeine tri-Iodide**"),—$(C_8H_{10}N_4O_2I_2.HI)_2+3H_2O$,—a **Non-Depressant Iodide.** —This salt forms long, lustrous, dark-green prisms, easily soluble in alcohol. When it is agitated with water, some of the iodine is dissolved out.

M. GRANVILLE ([184]) recommends the internal medicinal use of this compound on account of its readily *liberating Iodine* in the stomach; giving the constitutional effects of Iodine *without any of those depressing symptoms* characteristic of the Alkaline Iodides, and even of the Iodine compounds of Quinine.

---

(182) "Experimentelle und histologische Untersuchungen über die Entstehung der scrophulösen und tuberculösen Gelenksleiden," by Prof. SCHÜLLER; Stuttgart, 1880.

(183) For *other* reports on the internal use of GUAIACOL, *see* "MERCK'S BULLETIN," 1889; p. 66.

(184) *Chemist and Druggist*, 1890; Feb. 15.

***Cinchonine Iodo-sulphate,** (*so-called* "**Antiseptol**"), is a reddish-brown, voluminous, odorless powder; insoluble in water; soluble in alcohol and in chloroform.

In France, it has been lauded, under the name of "Antiseptol" ([185]), as a **Succedaneum for Iodoform.**—Therapeutic experiences on its action have not yet been recorded.

---

***Sodium di-Iodo-salicylate,**—$HO.C_6H_2I_2.CO_2Na$,—a new **Analgetic, Antithermic,** and **Antiseptic,**—occurs in white leaflets or long, flat needles; difficultly soluble in cold water.

The above-named therapeutic qualities of this salt appear to be identical with those attributed to the **Acid** from which it is derived (DI-IODO-SALICYLIC ACID), previously described ([186]).

Rules for the administration and dosage of SODIUM DI-IODO-SALICYLATE have not yet been determined. From the decided antiseptic properties of this salt, it is expected to prove quite an efficacious agent in *Dermic diseases of parasitic origin.*

---

## PROXIMATE PRINCIPLES, and Compounds of Such.

***Cathartic Acid**—[*See* "MERCK'S INDEX," p. 3.]—occurs in brown, hygroscopic scales, easily *soluble* in water and in dilute alcohol. It presents a combination of the Acid Glucoside of **Senna-leaves** with Lime and Magnesia. The preparation contains from 20 to 25% ashes, and is really *but a purified Extract* of the active constituents of Senna-leaves.

*Pure* CATHARTIC ACID decomposes very easily, and the efforts to produce it for the market, have, in consequence, remained unsuccessful. A preparation *comparatively free from mineral matter* can indeed be obtained; but, even with the most careful operation and the avoidance of all powerful agents in its manufacture, it is *almost inert* physiologically. On this account, as announced in a recent circular, E. MERCK, of Darmstadt, has dropped the "CATHARTIC ACID, **pure,**" from his price-list.

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***Digitalin, amorphous** (*Ph. Gall.* and *Ph. Belg.*)—[*See* "MERCK'S INDEX," p. 43.].—This preparation *answers all the requirements* of the above-

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([185]) *Progrès Médical*, 1890; July 12.

([186]) MERCK'S BULLETIN, 1890; p. 19.

named two pharmacopeias. It is quickly and easily soluble in chloroform. As shown by the experiments of BARDET ([187]), the lethal dose of this glucoside, *per kilogramme* (1,000,000 milligrammes) of animal is, in frogs, 1.5–2.5 milligrammes; in dogs, 2–3 milligrammes; in rabbits, 2.5–3 milligrammes.

*Dosage:*—Initial, ¼ milligramme [$\frac{1}{250}$ grain],—rapidly rising to 1–1.5 milligrammes [$\frac{1}{64}$–$\frac{1}{48}$ grain]. Doses such as the latter two may generally be termed "*medium*" ones.

---

***Gelsemin**—[*See* "MERCK'S INDEX," p. 66.]—...
—[*The above* is *the same* as "GELSEMIC ACID."]
***Gelseminine, crystallized**.....
***Gelseminine, amorphous**..... } **Merck.**

A recent circular from E. MERCK, Darmstadt, called forth by numerous inquiries on the chemical qualities of these substances, gives the following information:

"The 'GELSEMIN' in my list, an **Acid Resinoid** from *Gelsemium sempervirens*, was for a number of years regarded as the sole active principle extractable from this plant."—[*This* substance is now, *for better distinction* from the ALKALOIDS described below,—to be called: "**Gelsemic Acid.**"—ED. M. B.]

"SONNENSCHEIN ([188]) having subsequently isolated an **Alkaloid** from Gelsemium, I gave this *new substance* the name of 'GELSEMININE,' (in *four* syllables!) to distinguish it more conspicuously from the former preparation. This substance, as obtained by SONNENSCHEIN, was still impure. In the course of time, however, I succeeded in preparing it of absolute purity. This preparation, now called GELSEMININE, CRYSTALLIZED, CHEMICALLY PURE, MERCK, is in small white **Crystals**, melting at about 154–155° C [309.2–311 F], and readily soluble in alcohol, in chloroform, and in ether. Most of its salts are crystallizable. Its **Hydrochlorate** and its **Hydrobromate** are poorly soluble in water and in alcohol.

"*Besides this crystalline base*, a small quantity of an **Amorphous Alkaloid** is likewise found in Gelsemium. Of this second alkaloid, the **Hydrochlorate** is in my list under the designation: GELSEMININE, AMORPHOUS, HYDROCHLORATE."

---

***Helenin** (the **Solid** *Inula*-[Alant,- or Elecampane-] *camphor*) —[*See* "MERCK'S INDEX," p. 68.]—$C_6H_8O$—in **Bronchial** and **Intestinal** Affec-

(187) *Les Nouveaux Remèdes*, 1890; p. 311.

(188) *Berliner Chemische Berichte*, 1876; p. 1182.

**tions.**—HELENIN is a volatile solid,—a Stearoptene,—from *Inula Helenium*. It forms colorless crystals, almost insoluble in water, but easily soluble in hot alcohol, ether, and in oils. It has a marked **Antiseptic Action**, which is especially valuable in diseases of the *Respiratory* and *Digestive* Organs. According to Dr. VALENZUELA, ([189]), it is employed in Bronchial Affections in *Doses* of 0.01 gramme [1/6 grain], as a powder or in alcoholic solution, 10 times daily.

—In Spain, *of late*, HELENIN has been employed in *Asiatic Cholera!*

---

***Mannit** (*Manna-sugar*)—[*See* "MERCK'S INDEX," p. 89.],—**fine powder.**—White; *soluble* in water.

Much used in Southern climes as a **Laxative.**

---

***Santonin-oxim,**—its **Dosage** in **Tenia.**—SANTONIN-OXIM, described in a previous volume of this journal ([190]), has been thoroughly tried in the above character, since the publication mentioned, by Prof. COPPOLA ([191]).

He prescribes 0.05 gramme [3/4 grain] of SANTONIN-OXIM with Children of two to three years; 0.1 gramme [1½ grains] with those of four to six years; 0.15 gramme [2¼ grains] with those of six to nine years; 0.3 gramme [4½ grains] with Adults. Administration *in two fractional doses*, with an interval of one to two hours,—the medicament being suspended in Water or wrapped in a Wafer. The second fractional dose is *to be followed by a purgative.* This treatment is *to be repeated* for two or three consecutive days.

---

***Theobromine and Soda, Salicylate,**—as a **Diuretic.**—Dr. AUGUST HOFFMANN, of Prof. ERB'S CLINIC at Heidelberg, reports ([192]) on the use of THEOBROMINE AND SODA SALICYLATE, investigated physiologically by VON SCHROEDER, and first tested clinically by CH. GRAM ([193]). The results obtained are designated as *very favorable.* The diuretic action of the remedy manifested itself *most* energetically in cases of *Cardiac Af-*

(189) *Deutsche Medizinal-Zeitung*, 1884.

(190) MERCK'S BULLETIN, 1889; p. 84.

(191) *Farmacista Italiano*, 1890; p. 263.

(192) *Archiv für Experimentelle Pathologie und Pharmakologie*, Vol. XXVIII.

(193) MERCK'S BULLETIN, 1890; p. 23.

*fections with dropsical effusions.* In 2 cases of *Acute Nephritis* the effect was also *very satisfactory;* in fluid accumulations due to *inflammation of serous membranes*, it was *less* satisfactory; and in transudations from passive congestion in the *Portal system*, the action of the remedy was entirely *wanting*.

In those cases in which an effect is manifested, a slight increase in the urinary secretion can be observed usually as early as in the first 24 hours; which, gradually increasing, reaches its maximum on the 2nd to 6th day, and diminishes quite rapidly after the disappearance of the dropsy or the discontinuance of the remedy. In this last-mentioned particular, the observations of the present author do not correspond with those of GRAM, who often observed the action to continue after the remedy had been discontinued.

The quantity of urine excreted under the influence of THEOBROMINE AND SODA SALICYLATE was, as a rule, in proportion to the degree of dropsy present: it was larger the stronger the degree of dropsical effusion. In *healthy* individuals, no material influence was noticeable on the urinary secretion.

As regards the urine itself, its specific gravity *diminished* progressively with the increase in quantity, while the absolute quantity of its solid constituents—particularly urea—*increased* with the increase in diuresis!.

THEOBROMINE AND SODA SALICYLATE had a favorable effect on existing Albuminuria: in one case, the *albumin disappeared entirely* for a few days under the influence of THEOBROMINE AND SODA SALICYLATE; in another case, the percentage of *albumin diminished.* The remedy was borne well altogether: dyspnea was lessened already before the disappearance of the edema; the catarrh in the lungs diminished; and the appetite and general condition were improved. Only in a few exceptional cases did vomiting survene in the beginning of the THEOBROMINE AND SODA treatment; however, it usually ceased soon. Slight painless diarrheas frequently developed.

—The observations on the *behavior of the pulse* during the action of the THEOBROMINE AND SODA SALICYLATE are of interest not only in regard to the theory of the diuretic action of the THEOBROMINE, but also in respect to the practical employment of the same. VON SCHROEDER concluded from his animal experiments that the increase of the urinary secretion is effected by an action on the epithelium of the kidneys. GRAM was

of the same opinion: he could not observe any changes in the circulatory system after the use of THEOBROMINE AND SODA SALICYLATE.

HOFFMANN,—the author of this communication,—on the other hand, believes to have observed in the majority of his cases, by palpation as well as by means of the Sphygmograph, a *strengthening of the pulse*, and *disappearance* or *diminution of its irregularity*, when such existed. He is inclined to regard the changes in the character of the pulse as an expression of increased cardiac power due to a *direct influence* of the THEOBROMINE *on the heart* itself, because these changes are noticeable already before any effect has been produced on the ascites and edema. The author, therefore, holds that the remedy has an effect on the heart as well as on the kidneys.

By comparative observation with other remedial agents of the same class as THEOBROMINE AND SODA SALICYLATE, it was shown that the latter is capable of producing abundant urinary secretion even in cases where Digitalis and Strophanthus fail. However, THEOBROMINE AND SODA SALICYLATE cannot replace Digitalis: in some cases, the simultaneous employment of both might prove useful. Caffeine could be replaced by THEOBROMINE AND SODA SALICYLATE, *in cardiac affections*.

The dose usually administered by Dr. HOFFMANN was 5 grammes [77 grains] *daily*,—best taken in a plain 5% aqueous solution during the day. As *corrigents*, VON SCHROEDER recommends Fennel Water, and Peppermint Water, with Syrup. To be avoided are Acid Syrups, Fruit Syrups, and Glycyrrhiza Extract: these cause a precipitation of THEOBROMINE. THEOBROMINE AND SODA SALICYLATE should not be prescribed in *powder-form*, because the carbonic oxide of the air decomposes it and liberates the difficultly soluble Theobromine. The same thing happens also in simple aqueous solutions after a few days: these should therefore always be prepared *fresh*.

## MINERAL SALTS.

***Ammonium Tellurate,**—$(NH_4)_2TeO_4$,—as an **Organic Reagent.**—This salt occurs as a white, amorphous powder, soluble in diluted Acids. A trituration of 1 part AMMONIUM TELLURATE in 20 of CONCENTRATED SULPHURIC ACID is recommended by A. BROCINER ([194]) as a Rea-

(194) *Journal de Pharmacie et de Chimie*, 1890 p. 468.

gent for several *Glucosides and Alkaloids*,—for instance: Digitalin, Narceine, Apo-morphine;—with which it produces characteristic color-reactions.

---

* **Cobalt Sulpho-cyanate** (Rhodanide),—$Co(CNS)_2+4H_2O$,—is in *deep-blue*, hygroscopic crystals, *soluble* in water with a *rose-red* color, especially on addition of a trace of acid. The solution is used as a SYMPATHETIC INK.

---

* **Gold mono-Cyanide,**—AuCN,—[*See* "MERCK'S INDEX," p. 67.]—in **Phthisis, etc.**—This salt is a yellow, insipid, micro-crystalline powder; insoluble in water, alcohol, and ether.

About forty years ago, GOLD MONO-CYANIDE was used by CHRESTIEN and others ( ), in Scrophulosis, Phthisis, and Amenorrhea. After having fallen into disuse for a number of years, this salt *repeatedly finds extensive application* in Phthisis of late.

*Dosage:*—0.004–0.016 gramme [$\frac{1}{16}$–$\frac{1}{4}$ grain], several times a day. OESTERLEN uses the following:

GOLD MONO-CYANIDE.....0.18 gramme [2¾ grains].
Chocolate.....45 grammes [1½ ounces].
—Make into 24 troches.

*Take two to four troches daily.*

---

* **Gold tri-Cyanide,**—$Au(CN)_3+3H_2O$,—in **Phthisis.**—This salt is in large, colorless, tabulated crystals, *soluble* in water and in alcohol.

GOLD TRI-CYANIDE, of late, has *also* been used in Pulmonary Tuberculosis.

---

* **Lithium Benzoate, effervescent,**— a **Diuretic.**—This salt is a white, granulous mass; *soluble* in water, under generation of "carbonic-acid" gas.

It is used in *Uric-acid diathesis.*

*Dosage:*—Same as of LITHIUM BENZOATE, *ordinary*—[*See* "MERCK'S INDEX," p. 83].

---

* **Mercury Thymol-acetate**—[*See* "MERCK'S INDEX," p. 92.]—(*for Injections* in **Syphilis, etc.**) has been repeatedly discussed in these pages ([196]).

---

(195) OESTERLEN: "Handbuch der Arzneimittellehre," p. 147.

(196) MERCK'S BULLETIN, 1889; pp. 5, 79, and 81;—1890; p. 104;—1891; p. 63.

In the course of the past year, H. Löwenthal ([197]) and K. Szadek ([198]) published extremely favorable opinions on the medicinal virtues of this preparation. According to Szadek, the valuable qualities of Mercury Thymol-acetate—to wit: *prompt action, faint local reaction, and slight painfulness*—must result in continually further extending its use and in procuring for it a prominent place in the ranks of the Insoluble Mercury Preparations.

Löwenthal has succeeded in *entirely avoiding pain* from the injections, by combining the salt with Cocaine. He proposes the following highly commendable formula:

| | | |
|---|---|---|
| Mercury Thymol-acetate | 1 | gramme [15 grains]. |
| Glycerin | 10 | grammes [ 2 fl. drs.]. |
| Cocaine Hydrochlorate | 0.1 | gramme [1½ grains]. |

*For intramuscular (intragluteal) injections:*—one syringeful once a week.

---

***Potassium bi-Chromate, Caustic Pencils.**—These are used for the cauterization of Condylomata, Nasal polypi and other tumors.

---

* **Potassium Tellurate,**—$K_2 Te O_4$,—as an **Antidiaphoretic in Phthisis.**—This salt, which occurs in white crystals, insoluble in water,—had hitherto been tried only on animals, but has recently been therapeutically applied by E. Neusser ([199]) in a great number of Phthisical cases; in the vast majority of which he succeeded, by its means, in *suppressing or at least materially reducing the night-sweats*. The progress of the disease itself was not influenced. Toxic symptoms were never observed. (An external drawback in treatment by Potassium Tellurate is found in the intensive odor of garlic imparted by it to the breath of the patient,—of which, however, the latter does not appear to be conscious.)

*Dosage* (Neusser's):—In Pills, containing 0.02–0.04 gramme [$\frac{3}{10}$–$\frac{6}{10}$ grain]; *beginning with the minimum*, and reaching the maximum in the course of a week, as tolerance progresses.

---

**Silver and Potassium, Cyanide,—chem. pure, crystals.**—Ag C N + K C N.—White crystals, *soluble* in water. According to Behr-

(197) *Deutsche Medizinische Wochenschrift*, 1890; p. 544.

(198) *Wiener Medizinische Wochenschrift*, 1890; No. 22.

(199) *Wiener Klinische Wochenschrift*, 1890; No. 23.

ING ([200]), this Double Cyanide, while but *slightly toxic*, exercises considerable **Antiseptic** action in the organism affected by pathogenic microbes. To arrest the growth of *anthrax bacilli*, 1 part of this salt to 50,000 parts of blood-serum was found sufficient; whereas guinea-pigs require $\frac{1}{300000}$ of their weight for a lethal dose.

---

***Sodium Tellurate,**—$Na_2 Te O_4$,—an **Antihidrotic in Phthisical and other Pathological Sweats.**—Prof. COMBEMALE reports ([201]) on the use of SODIUM TELLURATE as an *Antihidrotic* at the Medical Clinic of the CHARITY HOSPITAL, Lille. The doses employed at first were 2 centigrammes [⅓ grain]—the same as those of *Potassium Tellurate* designated by NEUSSER (*see above!*), as most usually successful in controlling the night-sweats of Phthisis: later-on, however, they were increased to 3–5 centigrammes [½–¾ grain], *once daily*,—administered dissolved in an alcoholic julep, at 7 o'clock in the evening.

The Professor states that in doses of 5 centigrammes [¾ grain],—(*not* 0.5 gramme [7½ grains], as stated in the "Wiener Medizinische Presse,' 1891, No. 6!),—SODIUM TELLURATE *infallibly* controls the night-sweats of Phthisis, and that this effect is obtained in *all stages* of the disease: in the later stages, however, *correspondingly increased doses* will have to be exhibited. Dr. COMBEMALE regards SODIUM TELLURATE as *the best Antihidrotic* we possess,—more powerful even than Camphoric Acid ([202]). He asserts that pathological sweats other than phthisical—such as those of Acute Rheumatism, Typhoid Fever, Syphilitic Caverns, Dyspepsia, etc.—yield to SODIUM TELLURATE. He ascribes the action of the remedy to its Antiseptic property, or—more exactly—to the property of destroying the soluble bacterial products.

—SODIUM TELLURATE sometimes—*not always*—imparts a garlic-like odor to the breath: Prof. COMBEMALE observed it but twice.

---

***Zinc Sulphydrate,**—$Zn (S H)_2$—, **as a Dermatic.**—ZINC SULPHYDRATE is a white precipitate, which must be preserved under water, as it

(200) *Zeitschrift für Hygiene*, 1889; p. 467.

(201) *Bulletin Général de Thérapeutique*, 1891; p. 14.

(202) For Physiological and Therapeutical data on "CAMPHORIC ACID," *see* "MERCK'S BULLETIN," 1888; p. 28.

is prone to decompose in the dry state. It was employed by BARDUZZI ([203]), internally as well as externally, in *Chronic Eczemas*, *Psoriasis*, and *Vegeto-parasitic Dermatoses*, with favorable results. According to BARDUZZI, the desirable action of this salt is based on the Sulphur being made absorbable and its irritating properties being lessened. For its administration, he gives the following formulas:—

**Internal.**

ZINC SULPHYDRATE, washed.....0.5 gramme [7½ grains].
Extract Gentian.....*sufficient to make* 50 pills.
3–12 *pills daily.*

**External.**

| | | |
|---|---|---|
| ZINC SULPHYDRATE..... | 5.0 grammes | [1¼ drams]. |
| Lanolin..... | 20.0 " | [5 " ]. |
| Lard..... | 30.0 " | [7½ " ]. |

Make ointment.

# SELECTIONS.

## CREOLIN-PEARSON IN SCABIES. ([204])

Dr. De LALLIS uses this medicament in scabies, in the form of a 5-per-cent ointment, rubbing it once daily into the affected parts. Only four such applications are said to be necessary to produce perfect cure. CREOLIN, in his opinion, *is preferable to any other remedy for this purpose*,—especially possessing the advantage over sulphur, of not producing any eczema of the skin.

## SALICYLIC ACID AS A PROPHYLACTIC OF SCARLET FEVER. ([205])

Dr. G. DEROSA (*Giornale Internazionale delle Scienze Mediche*), claims that SALICYLIC ACID is a preventive of Scarlet Fever. Out of sixty-six children exposed to infection, twenty-seven cases existing in one house, only three took the disease after the administration of the drug, and in those the failure was attributed to the fact that its administration had been begun too long after the exposure. Its use should be commenced immediately when there is danger of infection, and given daily, until the possibility of infection is past. It is not necessary to isolate the patients, for fear of their communicating the disease, under this regime.

(203) *L'Osservatore*, 1889; Sept. 5.
(204) *North Carolina Medical Journal*, 1891; p. 248.
(205) *Western Medical Reporter*, 1891; p. 175.

## IODOLE and ANTIFEBRIN in CEREBRO-SPINAL MENINGITIS. (206)

The perusal of Dr. M. I. KROTKOFF'S paper (see below) has recently induced Dr. VLADIMÏR I. SÜBBOTIN, of Balashov, (*Meditzinskoië Obozrenîë*, No. 18, 1890, p. 495), to try IODOLE and ANTIFEBRIN in a severe case of sporadic Cerebro-spinal Meningitis. Like his predecessor, the author obtained truly brilliant results. The patient, a previously always healthy, robust merchant of 18, fell ill on July 30. When first seen by the writer, on August 8, the lad was suffering from excruciating headache (especially about the back of the neck), some impairment of consciousness, obstinate sleeplessness, frequent nausea and diarrhœa, anorexia, fever (39.5° C.), photophobia, meteorism, abdominal tenderness. There were also present flushed face, congested eyes, myosis, slow reaction of the pupils, herpetic rash around the mouth, thickly coated tongue, dry and hot skin, scanty rubeola over the chest and abdomen, weak pulse (95 per minute), and general prostration. During the night there appeared severe bilious vomiting of several hours' duration. On August 6 there supervened aching pain and numbness about all limbs, tenderness of the cervical vertebræ, retraction of the head, and rigidity of the posterior cervical muscles. On August 7, the patient's left extremities were found completely paralyzed and affected with cutaneous hyperæsthesia, the wrists and fingers contracted. Up to this day the case had been regarded as one of enteric or typhus fever, and treated as such. Cerebro-spinal Meningitis was now diagnosed, and the following combination resorted to:

℞ Iodoli purissimi.....0.30 gramme.
Antifebrini.....0.18 "

M. f. pulvis. D. S.—A powder every three hours.

Besides, the following adjuvant means were ordered: 1.—Four Milanese blisters to the back of the neck (2) and mastoid processes; 2.—Ice compresses to the vertebral column, below the blisters; 3.—Irritant (saline) enemata; 4.—A hypodermic injection of $\frac{1}{12}$ grain of Morphine (in view of insomnia); 5.—Milk and beef, in tablespoonful doses, repeated at short intervals. A steady improvement set in from the beginning. On August 17, the IODOLE powders were discontinued. On August 20, the patient got up perfectly well.

[In the *Meditzinskoië Obozrenîë*, No. 17, 1889, p. 389, Dr. KROTKOFF, of Saratov, has published two cases of typical Cerebro-spinal Meningitis, referring to girls, aged $4\frac{2}{3}$ and 9 years respectively. In the former case, the treatment was commenced on the third, in the latter on the first day of the disease, the little girl receiving 0.05 gramme of IODOLE and 0.08 of ANTIFEBRIN, the older 0.12 of IODOLE and 0.2 of ANTIFEBRIN, four times a day. The former was completely well on the twentieth day (of the symptoms), the other on the tenth. Considering the formidable character of the disease in question, one cannot help hesitating to attribute the extremely happy issue of the three cases to the treatment adopted. A more extensive series of clinical experiments in the same direction might elucidate whether the two authors had to deal simply with a happy, but blind, coincidence of the events, or really happened to come across a surprisingly efficacious means of lowering the enormous mortality from Cerebro-spinal Meningitis.—*Reporter.*]

Berne, Switzerland. VALERIUS IDELSON, M. D.

(206) *Saint Louis Medical and Surgical Journal*, 1891; p. 49.

## TANNIN AS A CURE FOR IODOFORM EXANTHEMS. (207)

The external use of IODOFORM (in the form of powder, salve, ethereal solution, or collodion,—in fact, in any shape) is frequently followed by the appearance of an erythematous or vesicular rash of a rather refractory and tedious character, which in idiosyncratic persons may spread far beyond the area treated with the substance. In the Polish *Nowiny Lekarskië* (1891, p. 99), Dr. BOLESLAW WICHERKIEWICZ writes that he has succeeded in discovering a *very efficacious method for speedily curing such exanthems*, by a local application of a solution of 1 part of TANNIN to 3 of Glycerin. It is imperatively necessary, however, to employ *chemically pure* Glycerin. A sufficiently thick layer of gauze should be freely soaked in the fluid, applied to the whole diseased area, and carefully covered with a piece of gummed paper,—the whole being fixed by a bandage. The dressing should be changed once daily. After the subsidence of the rash, it is advisable to apply, for a few days, a piece of linen smeared with a 2-per-cent Boracic Acid ointment (to keep the parts well protected).

# GATHERED FORMULAS.

## 16, 17, and 18.—TRI-BROM-PHENOL (BROMOL) AS AN ANTISEPTIC.

[C. RADEMAKER (208).]

### In Wounds and Ulcers.

—Lotion.—

| | |
|---|---|
| TRI-BROM-PHENOL | 1 part. |
| Olive Oil | 30 parts. |

*Externally!*

—Ointment.—

| | |
|---|---|
| TRI-BROM-PHENOL | 2 parts. |
| Vaselin | 15 parts. |

*Externally!*

### In Diphtheria.

—Paint.—

| | |
|---|---|
| TRI-BROM-PHENOL | 1 part. |
| Glycerin | 25 parts. |

*Externally!*

## 19.—EXPECTORANT MIXTURE.—[ROSSBACH (209).]

| | |
|---|---|
| APO-MORPHINE Hydrochlorate | 0.05–0.06 gramme [$\frac{5}{6}$–1 grain]. |
| Morphine Hydrochlorate | 0.03 " [ $\frac{1}{2}$ " ]. |
| Dilute Hydrochloric Acid | 10 drops. |
| Distilled Water | 150 grammes [ 5 fl. oz. ]. |

*Tablespoonful every* 2–4 *hours.*

(207) *Saint Louis Medical and Surgical Journal*, 1891; p. 298.

(208) *Wiener Medizinische Presse*, 1890; No. 44.

(209) *Semaine Médicale*, 1891; p. 2.

# STRAY ITEMS.

No. 4.

## IRON SALTS.

### Their fate after entering the circulation.

JACOBY (§) recently investigated this subject by experiments on animals. He found that the IRON SALTS, when injected into the blood, are eliminated within a few hours to but a very small extent (about 10%) with the urine, intestinal secretions, and bile; the greater part (about 50%), however, is *deposited* in the liver, and the remainder in other organs (spleen, kidneys, walls of the intestines). This deposition is ended in 2–3 hours, after which the blood is free from the metal introduced.

(§) *Archiv für Experimentelle Pathologie und Pharmakologie*, Vol. XXVIII.; p. 264.

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***N. B.***—CONTRIBUTIONS to "Merck's Bulletin" from DOCTORS OF MEDICINE ***are paid for*** at the highest rates established in ***Professional Journalism.***

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***Camphor, Hypodermically,—in Respiratory Diseases.**—Dr. BRUNO ALEXANDER, of BERLIN, has recently published ([210]) an interesting paper giving the results of an extensive series of observations made during the last two years on the effects of hypodermic injections of Camphorated Oil (1 part CAMPHOR to 9 parts Olive Oil) in a large number of cases of Disease of the Lungs. The dose given was 1 gramme [16 minims] once a day. As the effects of CAMPHOR are cumulative, it was found that four daily injections were as much as could easily be borne without some unpleasant effects—such as headache and restlessness at night. After an interval of a week, however, one more injection could be given without causing any unpleasant symptoms.

*Phthisical* patients seemed to bear continued treatment better than others, and its results in the last stage of Phthisis were very valuable: the night-sweats, the irritating cough, and the expectoration diminished in a remarkable manner—even the *first dose* effecting a very noticeable improvement in the patient's condition. In *Hemoptysis* the method also proved very useful,—patients being enabled to get about again, without fear of a recurrence, more rapidly than under ordinary methods.

CAMPHOR injections administered in *Bronchitis* increased the secretion at first, and afterwards caused it almost to disappear. They did not seem to be of much use when there was also Emphysema. In *Pneumonia* their value is *especially marked* in *weakly* individuals or in those with *cardiac disease;* and they cut short *Follicular Tonsillitis* and *Acute Coryza.*

These injections must of course be given to children only in very small quantities, but no effect appeared to be produced on the infants of mothers who were being treated by CAMPHOR injections for Catarrhal Pneumonia.

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***Chromic Acid**—[*See* "MERCK'S INDEX," p. 3.]—**Topically in Syphilitic Ulcerations.** ([211])—Dr. ARTHUR KUTTNER, assistant at Prof. H.

(210) *The Lancet*, 1891; p. 83.

(211) *See*, also, "MERCK'S BULLETIN," on *other external uses* of CHROMIC ACID: 1888; pp. 8 and 58;—1889; p. 49.

KRAUSE'S POLYCLINIC, Berlin, reports ([212]) on the topical use of CHROMIC ACID in Syphilitic Ulcerations of the pharynx and buccal cavity. He says that he is not aware of CHROMIC ACID having been recommended before in the same manner as he employed it. He looked through several pharmacological works to find mention of his method, but in vain; all the laryngologists and dermatologists that were consulted on the subject, knew nothing of his mode of applying CHROMIC ACID. For these reasons, the author felt as if he ought to publish his experiences.

About 6 or 8 months ago, Dr. KUTTNER tried all the remedies at his disposal for the purpose of effecting a cure in several cases of specially obstinate Syphilitic Ulcerations in the mucous membrane of the pharynx and of the buccal cavity, but in vain. Mercury, Potassium Iodide, and vapor-baths, had all been employed in very energetic doses as *general* treatment; *locally*, Calomel with Salt-water, Corrosive Sublimate, Iodine solutions, Aristol, Silver nitrate, etc., had been used continuously for months, without success.

The many guests at the POLYCLINIC—physicians from all countries—took active part in the author's endeavors, and assisted him with all sorts of suggestions, which, however, were uniformly without result, until Dr. TIEDEMAND, of Montevideo, suggested CHROMIC ACID. The latter is best applied by means of a flexible silver or German-silver probe, on the bulbous end of which a few crystals of CHROMIC ACID are melted, in the same manner as is done with Silver Nitrate. As soon as the probe has cooled, it is brushed over the affected part,—which, in consequence, becomes covered with a yellowish-green scab. To prevent the *excess* of CHROMIC ACID from being swallowed, it is removed by rinsing with spring-water. The pain during the application is very slight,—no mentionable reaction having ever been observed in the present author's cases. The procedure must be repeated as soon as the scab disappears,—which is usually after 1–2 days,—and renewed until the ulcer is healed.

This treatment was employed only after every other method had proved useless; *in every case*, cure survened in a comparatively short time (3–14 days). Relapses, both general and local, are not precluded: if they occurred, *general treatment* was at once resorted-to,—CHROMIC ACID being used *only after this failed.*

(212) *Therapeutische Monatshefte*, 1891; p. 348.

CHROMIC ACID was also tried on a very obstinate case of *Ulcus durum*, but without any result.

—The author does not venture to say if the CHROMIC ACID really exerts a *specific* influence on Luës,—as is alleged by many; but, inasmuch as this medicament never disappointed him in the treatment of these often very chronic and disagreeable affections, he feels obliged to most urgently recommend its employment in similar cases.

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*** Liebreich's Cantharidates,**—in **Lupus**, in **Tuberculous Ulcers**, in **Granular Lids**, and in **Laryngeal** and **Pulmonary Tuberculosis.**—In addition to the interesting reports published in previous numbers of this journal ([213]) on the CANTHARIDATES—POTASSIUM CANTHARIDATE and SODIUM CANTHARIDATE, according to LIEBREICH—four more are here briefly reproduced.—Dr. J. MÜLLER, assistant to Dr. EICHHOFF, at the GOVERNMENT HOSPITALS, Elberfeld,—Division for Cutaneous Diseases and Syphilis,—reports ([214]) on the results of the employment of SODIUM CANTHARIDATE—according to LIEBREICH—in four obstinate chronic cases of Cutaneous affections, including *Lupus*, and *Tuberculous Ulcers*. The treatment in these cases consisted *exclusively* of injections of SODIUM CANTHARIDATE, without any other therapy whatever. The injections were repeated *every other day*, as a rule; for special reasons, however, they were made *daily* for 2 days, in one instance, and on every *third* day, 4 times. The dose of the salt employed in adults was 1 decimilligramme [$\frac{1}{640}$ grain]; in children, ½ decimilligramme.

The results were favorable in all the cases. *Inflammatory symptoms* at the point of injection—which invariably was in the interscapular region—*never survened*; neither did pain of any intensity, save once in the case of Lupus when the moderately intense pain continued for a few hours after the injection. Reaction *in the affected part*—characteristic of *Tuberculin* injections—did not appear, as a rule; nor did the patients experience anything disagreeable locally.

On the other hand, various symptoms survened, pointing to an influence on the *entire organism*: *lassitude* and *exhaustion*—particularly on the day

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(213) MERCK'S BULLETIN, 1891; pp. 29, 45 and 61.

(214) *Therapeutische Monatshefte*, 1891; p. 273.

following the first injection—in all the cases; rather profuse *perspiration* in 2 of the cases.

As for the *temperature* after the CANTHARIDATE medication, it fluctuated within narrow limits,—usually not rising beyond 38.2° C [100.7 F]. The *pulse* was *accelerated* in proportion to the elevation of temperature produced, but remained *unchanged in character.* The examination of the *urine* with regard to Albumin and Blood, gave *negative results* in all the cases. The quantity of urine voided varied within normal limits. None of the patients ever complained of any urinary difficulty or symptoms referable to irritation of the urinary organs.

In the case of *Lupus*, there was a striking improvement after the 5th injection; the flat ulcers on the cheek had completely cicatrized, the deep ones on the ear had decreased in size, and their bases were raised, under profuse suppuration. Two weeks later, all the profound ulcers on the ear had also cicatrized, save two, which, however, had become dry, their bases raised to the surface, and almost completely cicatrized,—only pea-sized ulcers yet remaining. Five days later, every ulcer had completely cicatrized.

Thus, very good results have been attained in this rather small series of obstinate, chronic dermatoses; while, on the other hand, the drawbacks to the method of treatment resorted-to in these cases are but very small. With due care, there can be no real danger. The author does not give a positive opinion of the comparatively new LIEBREICH'S CANTHARIDATES, but promises to further employ, and experiment with them; but he feels perfectly justified, even now, to recommend them in cases similar to his.

—Dr. JUAN S. FERNANDEZ, of Havana, reports ([215]) on 5 cases of *Granular Lids* in which he employed injections of POTASSIUM CANTHARIDATE,—according to LIEBREICH. He was induced to do this by the fact that, in a case of Tuberculous Laryngitis treated by LIEBREICH, the patient had been under the care of Dr. GUTMANN for Granular Lids since 1887. Treatment of one kind or another had been tried with little or no effect till, during the administration of POTASSIUM CANTHARIDATE by LIEBREICH for the laryngeal disease, it was observed that considerable improvement was taking place in the ocular condition.

In Dr. FERNANDEZ'S cases, the treatment was usually begun with a dose of ¼ decimilligramme [$\frac{1}{2500}$ grain], and, at intervals of one day, the dose

(215) *Progreso Medico*, 1891; May.

was increased till, on the 8th day, 1 decimilligramme [$\frac{1}{640}$ grain] was reached. The injections were very painful, at times.

In all the cases, the *conjunctiva became paler* and *smoother*, and had a *healthier appearance*. Even in a very severe and old-standing case, with large granulations and opacities in both corneas, the appearance of the conjunctiva was markedly improved after but a few injections of the POTASSIUM CANTHARIDATE: there was much less injection, and the surface was smoother. The author thinks these results show that the treatment is worth trying.

—Dr. ERNEST GERMONIG, of Trieste, announces ([216]) his results of the CANTHARIDATE treatment in 10 cases,—8 of *Laryngeal* with *Pulmonary Tuberculosis*, 1 of *Lupus* with *Pulmonary Tuberculosis*, and 1 of *Chronic Hypertrophic Laryngitis*. In all these cases, with one exception, bacilli were found in the sputum.

All the patients complained of intense pain at the point of injection,—in some cases lasting for one or two days; *no reaction*, however, was observed at the site of puncture. In a few instances, SODIUM CANTHARIDATE —recommended by LUBLINSKY as being less painful than LIEBREICH'S initial preparation (*Potassium* Cantharidate)—was employed. The injections were given, as a rule, on 2 successive days,—the dose being 1 decimilligramme [$\frac{1}{640}$ grain] on the first occasion, and 2 on the second. In 2 cases the injections were given on 5 successive days,—beginning with $\frac{1}{50}$ milligramme [$\frac{1}{3200}$ grain], and rising gradually to one decimilligramme [$\frac{1}{640}$ grain].

With one exception, *no rise of temperature or other sign of general reaction followed the injection*. In all the cases except two, the laryngeal lesions were slight, and considerable improvement was observed in the voice and deglutition, as well as in the laryngoscopic appearances. In the remaining two cases,—in which fever was present before the treatment was begun,—the injections seemed to have no particular effect on the fever or on the pulmonary symptoms, save that on the days of injection the expectoration was more abundant and more mucous in character.—In the case of Lupus, the treatment produced no effect whatever.

Dr. GERMONIG concludes as follows:

1.)—The *Cantharidates* are *harmless* and can be used even in out-

(216) *Lo Sperimentale*, 1891; May 15th.

patients—if a watch can be kept on the urine, and the dose of 2 decimilligrammes [$\frac{1}{320}$ grain] is never exceeded.

2.)—Doses of 1 decimilligramme [$\frac{1}{640}$ grain] do not cause albuminuria or other urinary trouble.

3.)—Doses of 1 decimilligramme [$\frac{1}{640}$ grain] are sufficient to produce satisfactory results if administered 2 days successively.

4.)—After injections have been given on 2 successive days, an interval of at least 1 day should be allowed before another injection is given.

5.)—In cases of simple inflammation and tuberculous infiltration of the larynx, the CANTHARIDATES cause an exudation of serum which is quickly resorbed, with the result that the infiltration is diminished, the voice becomes less hoarse, and swallowing is less difficult.

6.)—Under the treatment, tuberculous ulcers show a tendency to heal.

7.)—The remedy can take the place of curetting, which is less easy of performance and more painful to the patient.

8.)—No other remedy produces so rapid a diminution of tuberculous infiltration of the larynx.

9).—The treatment by means of POTASSIUM or SODIUM CANTHARIDATE may be advantageously combined with the application of Lactic Acid.

10.)—It has no effect on the tuberculous processes in the lungs; it neither sets up nor reduces fever, and has no effect on the number, shape, or color of the bacilli.

11.)—It is *counter-indicated* in cases where albuminuria is present.

—At a recent meeting of the WARSAW UNIVERSITY RUSSIAN MEDICAL SOCIETY, Prof. L I. TÜMAS ([217]) presented a communication on 6 cases of *Pulmonary Tuberculosis* treated by LIEBREICH'S POTASSIUM CANTHARIDATE. All the patients were suffering from more or less early Phthisis with Broncho-pneumonia. Some of them were still fairly nourished,—the symptoms being limited to apical dulness, crepitant *râles*, moderate cough with scanty expectoration, and slight laryngeal lesions. In 3 cases there were present violent cough, purulent sputa with abundance of tubercle bacilli, exhausting night-sweats, more or less extensive pulmonary lesions, with small excavations, mild fever; and, in one, considerable emaciation.

As for the results, the cough diminished in 4 cases,—the sputa at first becoming more abundant and mucoid, afterwards (in 5 days or so) markedly decreasing in quantity. In 2 of the 4 the expectoration subsequently

(217) *Vratch*, 1891; p. 247.

ceased altogether,—a dry cough only remaining; while night-sweats and fever disappeared, appetite improved, the stools became regular, and weight increased 5 and 2 pounds respectively within a fortnight. In the same 2 cases there were noticed clearing up of the pulmonary note on percussion, and decrease of the moist *râles*. Of the other 4 patients, in 3 the physical pulmonary signs did not show any improvement, while in one they apparently grew worse. In cases where laryngeal ulcers were present, subsidence of congestion and of edema of the vocal cords was observed. Dysuria was noticed in 2 cases after the injection of 0.0002 gramme [$\frac{1}{3\,2\,0}$ grain]; it ceased speedily, however, after the internal administration of Opium Tincture. Headache survened in 1 case, and gastric pain in another. The injections caused more or less intense local pain of 24 hours' duration, but *no infiltration or suppuration.*

The author concludes that, on the whole, the CANTHARIDATE treatment is *decidedly beneficial* in some cases, and hence deserves a further trial,—its advantages being these:

1.)—The composition of the remedy is known to all.

2.)—The medicament can be prepared by everybody.

3.)—It admits of precise dosage.

4.)—It does not give rise to any serious complications.

5.)—It can be safely applied in out-door patients, as it does not involve any change in the patient's usual mode of life.

The beneficial effects of POTASSIUM CANTHARIDATE seem to depend upon its stimulating the vital activity of the systemic tissue cells and increasing their energy in the struggle against pathogenic agents—that is, it acts much in the same way as Spermine or BROWN-SÉQUARD'S testicular injections.—[*See*, on the latter point, Dr. v. OEFELE'S article in last *May* number.—ED.]

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* **Menthol** (PEPPERMINT-CAMPHOR)—[*See* "MERCK'S INDEX," p. 89.]—as a **Local Anesthetic, Stimulant,** and **Antiseptic** in **Laryngeal** and **Pulmonary Affections.**—Since the introduction of MENTHOL into European materia medica as a remedy for Neuralgia ([218]), its uses have largely multiplied. One of the latest, and perhaps its most peculiar use, is that suggested by Dr. WALKER DOWNIE ([219]) in the treatment of certain *Laryngeal* and *Pulmonary Affections.* For this purpose he uses *intra-laryn-*

(218) *See*, also, "MERCK'S BULLETIN," 1889; p. 25.

(219) *British Medical Journal*, 1891; p. 845.

*geal* injections, consisting of 10 to 20 per cent of MENTHOL and 2–4 per cent of Guaiacol, in Olive or Vaselin Oil. With a hypodermic syringe, to which is attached a vulcanite laryngeal tube, he injects as much as 2 drams of the solution into the larynx below the vocal cords.

Immediately on the administration of the injection containing MENTHOL, the patient experiences a pleasant sensation of warmth in the larynx, rapidly spreading downwards to the region of the sternum, and soon followed by what the patient usually describes as a comfortable glow all over the chest. He breathes more freely; and, where tightness or a feeling of constriction across the chest was complained-of, this is rapidly relieved by the MENTHOL injection. Following its administration there is *much less inclination to cough:* indeed, the relief is so great as to insure a night's sound rest. Expectoration in phthisical patients is *greatly reduced* in quantity, and is *much less offensive;* while the general condition of the patient, especially as regards weight, greatly—at times *marvelously—improves.*

Dr. DOWNIE considers the action of MENTHOL of a triple character: first, as a **Local Anesthetic,** we have relief from cough, and that in a way greatly to be preferred to the older fashion of administration of opiates by the stomach, with their consequent deleterious effects on alimentation; secondly, it is a *powerful*, though comparatively *harmless*, **Stimulant;** and, thirdly, an **Antiseptic,** which, being of a highly volatile character, is *readily diffused* throughout the whole lung. By its use in this fashion, we have an Antiseptic brought as closely into contact with the affected surface as is possible,—certainly much more completely than is the case when inhalers are employed. By this form of treatment the majority of his patients have had their sufferings alleviated, and a goodly proportion have not only been markedly relieved, but restored to apparent health.

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***Sodium Naphtholate, impure,** ("*so-called* **Microcidin**"),—a new **Antiseptic.**—At the meeting of the FRENCH ACADEMY OF MEDICINE, held at Paris, April 28th, 1891, Dr. M. POLAILLON ([220]) read a report from Dr. BERLIOZ, of Grenoble, on a new Antiseptic discovered by the latter, and named by him MICROCIDIN. It is prepared by adding to fused Beta-Naphthol half its weight of Sodium Hydroxide, and allowing the mixture to cool. It is a whitish powder, 75% of which consists of SODIUM

(220) *La Semaine Médicale*, 1891; p. 178.

NAPHTHOLATE; the remaining 25%, of a mixture of Naphthol and Phenol compounds; soluble in 3 parts of water, yielding a brownish solution.

MICROCIDIN is a very powerful Antiseptic; very slightly toxic, not caustic, cheap, and does not affect either instruments or clothes. According to Dr. BERLIOZ, its antiseptic power is inferior to that of Mercury bi-chloride, or of Naphthol; but 10 times greater than that of Phenol, and 20 times greater than that of Boric Acid. It is excreted in large quantities by way of the kidneys, and it is also an Antipyretic.

Dr. POLAILLON has obtained good results from 3 : 1000 solutions of MICROCIDIN, used both to wash the wounds and to impregnate the dressings, in a variety of surgical affections. Under their influence, *Ulcers* of legs and *Suppurating Wounds* cicatrize rapidly, and the odor of gangrenous wounds is quickly destroyed.

As regards *Recent Wounds*, solutions of MICROCIDIN prevent suppuration as efficiently as Phenol or Naphthol solutions.

For *Infected Wounds*, a 5 : 1000 solution appears necessary; but a 3 : 1000 solution is sufficient to guard wounds from infection. These two solutions may be employed in all cases in which an efficient antiseptic irrigation is required,—in abscesses, in suppurating mucous or serous cavities, or for vaginal and intra-uterine injection. On the whole, MICROCIDIN, according to Dr. BERLIOZ, deserves a place among the best and most innocuous antiseptics.

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* **Strychnine**—[*See* "MERCK'S INDEX," p. 138.]—as a **Specific in Dipsomania.**—Dr. PORTUGALOW, of Samara, reports ([221]) that he has actually cured 455 cases of Dipsomania with hypodermic injections of STRYCHNINE. He gives expression to his unbounded confidence in this remedy by saying that he knows

> "of *reliable* and *specific remedies* for *two* affections *only:* STRYCHNINE for the various forms of Alcoholism, and Quinine for Malarial Fever."

He prescribes:

> STRYCHNINE Nitrate.....0.06 gramme [1 grain].
> Distilled Water..... ..... 15 grammes [½ fl. oz.].
> *For subcutaneous injection:*—daily, 1–2 injections,—using for each, at first, 0.5 gramme [8 minims]; later, 0.25 gramme [4 minims].

Usually 10–16 injections suffice for a complete cure. Some Sodium Bromide may be administered at the same time.

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(221) *Nedelja*, 1891; No. 13.

—Dr. W. N. JERGOLSKI also has published ([222]) his experience with the STRYCHNINE treatment of Dipsomania. His cases—10 in number—include men of most widely different vocations,—ministers, merchants, gardeners, farmers, etc.

The results of the treatment were truly *surprising*. Topers who had been addicted to drink for many years—some even for decades—became endowed, as a result of the Strychnine treatment, with an *invincible repugnance* for alcohol, and could no longer bear spirituous liquors. One of the author's patients, prior to the treatment, scarcely passed a single day without drinking ½–1 liter [about 1–2 pints] and more of brandy. On the day following the first injection of 0.0015 gramme [$\frac{1}{40}$ grain] STRYCHNINE Nitrate, he was astounded to find that he had no desire for alcohol, and experienced neither mental uneasiness nor any feeling of pressure in the epigastrium. The injections were continued, and the patient was cured.

Another case, of 15 years' standing, complicated with chronic intestinal catarrh and incontinence of urine, was cured by 10 daily injections, of 0.003 gramme [$\frac{1}{20}$ grain] STRYCHNINE Nitrate, combined with the internal use of STRYCHNINE in pills. Not only was the Dipsomania permanently cured, but the intestinal catarrh gradually disappeared, and the bladder again performed its functions normally.

All of JERGOLSKI's cases were completely and permanently cured, save two, in which the patients, after having acquired a thorough distaste for alcohol, became addicted to it again through *subsequent medication*, in other diseases, by means of *alcoholic menstrua*.

The author, therefore, ascribes a wonderful action to STRYCHNINE, and regards it as a **Specific** *for Dipsomania*.

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* **Thymol** (THYMIC ACID; *Thyme-camphor*)—[*See* "MERCK'S INDEX," p. 144. —in **Chyluria.**—Surgeon-Major E. LAWRIE reports ([223]) on the *complete cure* of two cases of Chyluria, dependent on filariæ in the blood, by the internal administration of THYMOL. This discovery is all the more important, inasmuch as there has been hitherto no known remedy for the disease in question. The following is a synopsis of the cases :

(222) *Vratch*, 1891; No. 10.

(223) *The Lancet*, 1891; p. 364.

(1)—Nazim Mahomed Beg, aged twenty, was admitted into the RESIDENCY DISPENSARY on Sept. 11th, 1889, on account of Retention of Urine. A catheter was passed and a small quantity of chylous urine withdrawn. The distension of the bladder was not relieved, and on Sept. 12th it was necessary to perform perineal section. A large quantity of white clot was removed, and a lithotomy tube was tied into the bladder, which was washed out with a solution of Mercury bi-chloride. At first Quinine and various other remedies were employed *without any effect;* the urine continued chylous, the patient was never free from fever, and filariæ were always found in the blood at night. On Sept. 27th the administration of THYMOL in one-grain doses every four hours was commenced. On Oct. 12th the dose was increased to two grains. On the 18th the symptoms began to improve, and by Dec. 14th, 1889, he was quite well, and there was *no trace of filariæ* in the blood.

When the patient was admitted into hospital, he was emaciated and almost in a dying state. He is now (Dec. 11th, 1890) quite well, and is fat and strong. The improvement in his condition might be thought to be due to the spontaneous cessation of the disease; but no treatment did the patient any good whatever until the administration of THYMOL was commenced, and then the improvement was steady and gradual, and may fairly be attributed to the action of the drug.

(2.)—Mahoob Khan, sepoy, aged twenty. Admitted into the AFZUL GUNJ HOSPITAL on Oct. 1st, 1890, on account of Stone in the Bladder. The patient stated that he had suffered from symptoms of Stone for ten years. On admission he was emaciated, his temperature was 102°, and there was a large stone in the bladder. The stone was removed by lateral lithotomy at 1 P. M. on the day of admission, and weighed five ounces and nineteen grains. The temperature remained high after the operation, particularly at night, and on Oct. 6th the urine was discovered to be chylous. Filariæ were found in the blood, and also in the urine.

The administration of THYMOL was commenced in two-grain doses on October 6th, and increased to three-grain doses on the 11th. On the 14th the patient was attacked with Dysentery, and the THYMOL was replaced by scruple doses of Ipecacuanha. On the 20th he had recovered from the Dysentery, and THYMOL was recommenced. The dose was gradually increased to five grains three times a day, and the patient left the hospital *cured* on Nov. 23d. He is now (Dec. 15th, 1890) quite well, and is fat and strong like the first patient. His urine is normal, and there are *no filariæ* in the blood.

The important practical point in the above cases is the fact they establish that THYMOL has the power of destroying organisms in the blood and tissues, which are actually the cause of a well-known disease. The destruction of the organisms cures the disease.

—It appears probable that THYMOL may prove useful in the elucidation of some of the intricate questions involved in the relation of micro-organisms to disease, and it is on this account to be commended to the consideration of bacteriologists.

***Zinc Chloride**—[*See* "MERCK'S INDEX," p. 152.]—as **Anti-tubercular.**—At a meeting of the "ACADÉMIE DE MÉDECINE," Paris, July 7th, Prof. LANNELONGUE ([224]) presented a detailed communication on what he calls "A method of prompt transformation of tuberculous products in the joints and certain other parts of the human body." Deep injections of weak solutions of ZINC CHLORIDE are made, *not in the tuberculous tissues*, but outside and round their spreading edge.

The effect of the injections is to "fix" and kill some of the elements of the tissues into which it penetrates, to obliterate some of the capillaries and smaller vessels, and to diminish the calibre of the arteries and veins by setting up inflammatory irritation of their walls. An enormous proliferation of new embryonic cells takes place not only at the seat of injection, but for some distance around it. These infiltrate the tuberculous tissue, and, according to the author, attack and destroy the bacilli. The morbid tissues "fixed" by the ZINC CHLORIDE are slowly absorbed, whilst the young tissues become rapidly organized into a dense fibrous structure.

The injections cause considerable local pain and swelling, but as a rule no edema,—if they have been made sufficiently deep; the integument is brought into a condition resembling the scleroma of newborn infants. In two or three days the granulation tissue is more resistant and more tense to the touch, and soon afterwards nodules of almost cartilaginous hardness can be felt at the seat of injection. In course of time, there is a tendency for the sclerosed tissue to become looser and more like connective than fibrous tissue. In this way the parts may recover their natural shape and suppleness.

The treatment has little or no effect on the general health; the temperature, as a rule, rises less than 1° C [1.8 F] after each injection, and soon returns to the normal point. Of 2,000 injections given during the last seven or eight months, *not one* has given rise to *abscess*, but in four cases they were followed by *hematoma*, which M. LANNELONGUE believes to have been due to rupture of small vessels owing to the irritation caused by the ZINC CHLORIDE. No eschar is produced if the injections are made into or under the muscular layers. If a large *vein* be impinged upon, thrombosis is likely to result,—thus indicating the necessity for a certain prudence in making the punctures.

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(224) *The British Medical Journal*, 1891; p. 86.

As for the *modus operandi*,—taking the knee as the type of the application of the method,—the needle is plunged above the superior cul-de-sac, so as to reach the femur on a level with the reflexion in the fungating synovial membrane, and the fluid deposited right on the femur. In this way 4 or 5 deep punctures are made in the half circle formed by the superior cul-de-sac, and 2 or 3 drops of a 10% solution of ZINC CHLORIDE injected through each. About double this number would be necessary in the case of an adult.

In the case of *suppurating* but *unopened* articular disease, the cavity should first be aspirated, and then washed out well with sterilized water, after which the solution is injected into the periphery in several points. Suppurating glands should also be washed out with an abundance of sterilized water; and in all cases are the injections to be made with the most rigid *aseptic precautions*.

To properly carry out the method, the following rules should be observed:

1.)—Avoid injections into the *cavity* of the articulation.

2.)—The injections should be made as far as possible at the points whence arrive the blood vessels,—following up the granulations along the large ligaments, but *avoiding* the vessels themselves wherever this can be done.

3.)—Avoid injections *immediately beneath the skin*.

4.)—Beginning with solutions of 1 : 40, the strength may be gradually increased to 1 : 10. In the *lung*, a 1 : 40, and in the *epididymus*, a 1 : 20 solution of ZINC CHLORIDE should be used; in *tuberculosis* of the ribs, iliac bones, and glands, a 1 : 10 solution.

5.)—It is preferable to inject *small quantities* at a time,—a couple of drops for example,—multiplying the points of injection.

6.)—Before having recourse to the method, the limb should be placed in a good position and maintained there.

7.)—If, after a time, there are signs of *recurrence*, the treatment should be forthwith recommenced.

So far, Prof. LANNELONGUE has treated 22 patients by his method, all of whom were under the age of 15. 20 of them were suffering from Osteo-arthritis of the limbs or spinal column, or from Tuberculous glands,—both non-suppurating and suppurating, and in some cases open. 2 were suffering from Pulmonary Tuberculosis.

Of the former series, several may be considered *cured*; and *in all*, the morbid process has been *favorably modified*. As regards the pulmonary cases, they have not been long enough under treatment for any reliable conclusion to be arrived-at.

# SELECTIONS.

## ARSENIC IN WARTS. (225)

Dr. PULLIN has obtained excellent results from the internal administration of FOWLER'S SOLUTION in the treatment of multiple warts. In one of the cases, that of a young woman who suffered from numerous warts on the hands, six drops of the solution were given daily for eight days. The warts disappeared rapidly, except a few very large ones, which were removed by cauterization. In another case, that of a boy who presented a number of large very vascular warts, the growths were removed by eight days' administration of the solution, four drops being given daily.

## BORAX IN EPILEPSY. (226)

BORAX was proposed for the first time by C. FOLSOM in the treatment of Epilepsy in 1881. GOWERS reported four cases treated with this remedy, out of which in three a cure was obtained. Dr. DIJOUD (*El Siglo Medico*, 1913, 1890) has tried it in twenty-five chronic epileptic patients in which the Bromides had been used either without success or with no satisfactory results. The duration of the treatment was from four to seven months; the dose varied from one to six grammes daily. He entirely cured one, and notably relieved all the others, except six. From this it is apparent that BORAX is able to diminish—in a great number of cases which do not yield to the bromides—the frequency of the epileptic attacks. The dose may, without inconvenience, be carried up to six grammes per day, yet one should be careful to commence with one to two grammes daily, and progressively increase the dose. The following is a convenient form for a one to four-grammes dose:

| | | |
|---|---|---|
| SODII BIBORAT. pulverisat | 1–4 | grammes. |
| Syrup. corticis aurant | 30 | " |
| Aquæ destillat | 100 | " |

Sufficient for one day.

SIG.—*To be taken in two doses:* one in the morning, and the other in the evening.

When the dose exceeds four grammes per day, one gramme of Glycerin should be added for every gramme of BORAX over four grammes.

In the prolonged use of the remedy, Dr. DIJOUD recommends the following formula:

| | | |
|---|---|---|
| SODII BIBORAT. pulverisat | 10.00 | grammes. |
| Glycerini pur | 6.00 | " |
| Syrup. corticis aurant | 94.00 | " |

SIG.—*To be taken by the spoonful.*

(225) *The International Journal of Surgery*, 1891; p. 153.

(226) *The Medical and Surgical Reporter*, 1891; p. 137.

## CAFFEINE SUBCUTANEOUSLY IN PUERPERAL HEMORRHAGE. (227)

MISRACHI (*Jour. de Méd.*, March 8, 1891,) recommends this method of using CAFFEINE for cases of Post-partum Hemorrhage in which a rapid effect is required. It is of special advantage to the country practitioner, who may at the time be attending cases of infectious disease, and whose hands may not be sufficiently disinfected to justify a digital examination of the genital organs of the parturient patient. The author states that CAFFEINE will act *more rapidly than ergot* and *more efficiently than ether*, though the latter is more rapid in its action as a stimulant. The CAFFEINE should be administered in a solution containing a grain and a quarter of the substance, and this may be repeated if necessary until five grains have been used. A better solution may be obtained by dissolving the CAFFEINE in warm water with benzoate of sodium. It is recommended that packages containing both these materials form a portion of the contents of the obstetrician's bag.

---

## CALCIUM SULPHIDE IN PHTHISIS. (228)

Dr. WITHERLE [*La Clinique*] claims to have obtained good results in the treatment of phthisical patients by the internal administration of CALCIUM SULPHIDE. He commences by giving a pill containing ½ grain of the SULPHIDE every two hours, and gradually lessens the intervals between the doses until eructations or other symptoms of gastric irritation show that the limit has been reached. In most cases, patients were able to take two pills every hour, and their general condition in every instance appeared to improve. This is, in reality, an indirect method of introducing sulphureted hydrogen into the blood, and the principle is the same as that underlying BERGEON'S treatment.

---

## FUCHSINE IN THROAT AFFECTIONS. (229)

DR. K. BOGROFF (*Vratch*, April 18, 1891) advocates strongly the use of the aniline preparations as antiseptic agents. In a case of chronic Sympathetic Pharyngitis, which was provoked by a tubercular condition of the lungs and larynx, in which the patient had great difficulty in swallowing, and all treatment had proved useless, a spray of a two-per-cent Boric-acid solution saturated with FUCHSINE cured the patient entirely of the Pharyngitis. The spray forms an impermeable surface over the epithelial lining and shields the tissues from further irritation. It is remarked also that this treatment is especially suitable in cases of Tubercular Laryngitis, as the FUCHSINE stains the tissues with which it comes in contact and so facilitates observation as to whether or not the right spot is being treated.

---

(227) *New York Medical Journal*, 1891.

(228) *Maryland Medical Journal*, 1891; No. 218.

(229) *New York Medical Journal*, 1891; p. 49.

## MERCURY SALICYLATE AS AN ANTISEPTIC. (230)

At a recent meeting of the Surgical Society of Paris, Dr. VACHER, of Orléans, read a paper on the antiseptic qualities of MERCURY SALICYLATE, which is quoted in the *Bulletin Médical*. He considers the drug an admirable antiseptic and superior to VAN SWIETEN'S solution, because solutions of Mercury Salicylate need not contain alcohol. Solutions of any strength are *perfectly stable* and will *keep indefinitely*. It is non-irritating, and a powerful antiseptic. In the treatment of syphilis, Dr. VACHER has found it to be of great service, particularly when given hypodermically. The injections produce no pain and cause no local inflammation. The author has used the drug in solution hypodermically in over one hundred cases of syphilis, and with the best results. MERCURY SALICYLATE is always well tolerated.

# GATHERED FORMULAS.

20, 21 and 22.—**GYNOCARDIC ACID and its Salts in Lepra.**—[ROUX (231).]

—Capsules.—

GYNOCARDIC ACID.....1–3 grammes [15–45 minims].

Dispense in 3-grain Gelatin Capsules!—*Daily, in 2 doses, before meals.*

—Pills.—

MAGNESIA GYNOCARDATE.....4 grammes [ 1 dram ].

Extract Gentian.....1 gramme [15 grains].

Divide into 20 pills!—5–20 *daily, before meals.*

—Capsules.—

SODIUM GYNOCARDATE.....2–4 grammes [30-60 grains].

Dispense in 3-grain Gelatin Capsules!—*Daily, in 2 doses, before meals.*

23.—**TERPIN HYDRATE in Whooping-cough.**—[TALAMON (232).]

—Mixture.—

TERPIN HYDRATE.....1.0–1.5 grammes [15–23 grains].

Antipyrine..... 1 gramme [ 15 grains ].

Syrup Orange-peel..... 50 grammes [ 1¼ fl. oz. ].

Linden Water..... 60 grammes [ 2 fl. oz. ].

1–2 *Teaspoonfuls several times daily.*—[For a child 1–4 years of age].

(230) *The American Practitioner and News*, 1891; p. 64.

(231) *Repertoire de Pharmacie*, 1891; p. 117.

(232) *Médecine Moderne*, 1890; July.

# STRAY ITEMS.

No. 5.

## PHENOL COMPOUNDS OF ANTIPYRINE.

M. PORTES recently called attention to a compound of RESORCIN with ANTIPYRINE, to which the name RESOPYRIN had been given. The compound crystallizes in colorless, oblique, rhombic prisms; soluble in alcohol, insoluble in water. It is obtained by mixing *solutions* of the constituents in proportions corresponding to their chemical equivalents.

> [Resorcin and ANTIPYYRINE are probably *chemical incompatibles*: for, it *triturated* together in equal quantities, they form a honey-like paste,—similarly to Camphor and Chloral Hydrate (‡).—ED. "M. B."]

This discovery has led M. BARBEY (§) to experiment with other PHENOLS. Among the resulting compounds described are the following:

PICROPYRIN, consisting of fine yellow needles; obtained by pouring a concentrated solution of ANTIPYRINE drop by drop into a saturated aqueous solution of Tri-nitro-phenol, and recrystallizing the precipitate from boiling water.

PHENOLPYRIN was obtained, on triturating together equal parts of pure and well dried Phenol and ANTIPYRINE, as an oily, colorless, inodorous liquid, crystallizing after a time; insoluble in alcohol, very soluble in ether.

Similarly, upon triturating one part of $\beta$-Naphthol with two parts of ANTIPYRINE, NAPHTHOPYRIN was obtained as a viscous liquid, crystallizing subsequently; insoluble in cold, and nearly insoluble in hot water, but very soluble in alcohol and in ether.

Upon triturating Pyro-gallol (Pyro-gallic Acid) with ANTIPYRINE, a viscous mass was formed which after a time became dry and pulverulent; insoluble in cold water, soluble in ether, in alcohol, and in boiling water. If, however, solutions of the two constituents be mixed and heated, PYROGALLOPYRIN can be obtained after four or five hours in beautiful stellate-grouped prismatic crystals.

---

(‡) For *List of other Incompatibles* of Antipyrine, *see* "MERCK'S BULLETIN," May, 1891.

(§) *Bulletin Commercial*, 1890; p. 132.

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CHLORAL HYDRATE *in Anthrax.*—[LOTION.]

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*** Ammonium Chloride**—[*See* "MERCK'S INDEX," p. 14.]—in **Epidemic Influenza.**—In a paper recently read before the ACADEMY OF MEDICINE at Paris, M. MARROTTE ([233]) advocates the use of AMMONIUM CHLORIDE in the treatment of Epidemic Influenza, in preference to Quinine Sulphate as urged by M. GELLIÉ, of Bordeaux. The results obtained from AMMONIUM CHLORIDE are spoken of as highly favorable,—the advantages claimed for this remedy over Quinine being that it is *much cheaper*, *more rapid* in its action, and brings about a *more complete* and *definite cure.*

It is more especially in those forms of the disease which are complicated with pulmonary congestion or inflammation that AMMONIUM CHLORIDE was found serviceable. From 48–80 grains [3–5 grammes] are given in 24 hours in the form of 8-grain powders, which may be conveniently concealed in wafers.

---

*** Antifebrin**—[*See* "MERCK'S INDEX," p. 18.]—as an **Anti-tetanic.**—Dr. FRANCESCO reports ([234]) a severe case of *Traumatic Tetanus* which he treated with ANTIFEBRIN in doses of 0.25–0.4 gramme [3¾–6 grains] every 3–4 hours, in combination with hypodermic injections of Phenol. As a result of this treatment, convulsions became rarer, and the patient became less sensitive to external irritation. The patient recovered gradually in the course of four weeks. ([235])

---

*** Chloral Hydrate** — [*See* "MERCK'S INDEX," p. 35.] — by **Intravenous Injection.**—In a paper on Intravenous Injections of Chloral Hydrate, recently read before the LYONS MEDICAL SOCIETY, Dr. MAYET ([236]) enumerates the kinds of cases in which these injections are specially indicated. According to him, they may be useful in *Rabies;* in *Tetanus;* in *Uremia*, with active delirium or convulsions; in *Puerperal Eclampsia;* in *Delirium Tremens*, when this threatens life and other means are unvailing; in *Strych-*

(233) *The Lancet*, 1891, Vol. I; p. 1457.
(234) *Riforma Medica*, 1891; No. 28.
(235) *For other recent reports* on ANTIFEBRIN, *see*, *also*, MERCK'S BULLETIN, Vol. IV; pp. 85, 93.
(236) *Lyon Médical*, 1891; June 7th.

*nine Poisoning;* and in certain exceptional cases of disease associated with *great pain* uncontrollable by Morphine.

In using such injections it must be remembered that CHLORAL HYDRATE, thus administered, is about *four times as powerful* as when it is gradually absorbed from the alimentary canal: therefore, *small doses* must always be given, and it will be well also to be very cautious in commencing the treatment, owing to possible idiosyncrasy in the patient. The concentration should not exceed 1:30, for with stronger solutions there is a risk, if injecting the drug too rapidly, of producing a deleterious action on the corpuscles, or of producing thrombi in the vessels. *In no instance* has the author seen *hemoglobinuria* produced by the injections, and *only once* was a transitory *albuminuria* observed,—although the concentration of the drug was much greater than now recommended by him. *Cardiac troubles* might be produced as a result of too rapid injection, and these would have to be very actively combated by electricity, artificial respiration, etc. There need, however, be no fear of their occurrence if the above precautions be observed.

The dose should not exceed 15 grammes [½ fl. oz.] of the above strength per injection; and not more than 45–60 grammes [1½–2 fl. oz.] should be given in twenty-four hours: according to the effect produced. In administering the injections, a glass syringe large enough to hold the whole of the dose, and capable of being easily rendered aseptic, is used. A leather packing for the piston must be discarded, as it will not bear the application of heat: the best packing for the purpose is one either of elder pith, or of asbestos. The syringe, after having been sterilized by boiling, is filled with the liquid previously heated to body temperature; next, the veins of the forearm having been distended by the application of a bandage above the elbow, the needle of the syringe is introduced obliquely into one of them; the bandage is then removed and the fluid *very* slowly injected, —its effect on pulse and respiration being all the while carefully watched.

---

* **Codeine**—[*See* "MERCK'S INDEX," p. 38 ]:—Its **Physiologic Action** and **Therapeutic Employment.**—Dr. WILLIAM HEIDINGSFELD, of Strassburg, reports ([237]) on observations made at the STRASSBURG INSANE ASYLUM, on 24 patients treated with CODEINE.

(237) "Inaugural Dissertation;" Strassburg, 1891.

The usual dose was 0.02 gramme [⅓ grain] three times a day, in powders or in pills. He found that:

1.)—CODEINE has very little or *no Anesthetic* action: as a rule, it disappointed in *bodily pains*, as well as in *hysterical disturbances*.

2.)—As a *Narcotic*, it acts better in conditions of *depression* than in exaltation; but only when given in doses 3–4 times as large as narcotic doses of Morphine. In *Acute Mania*, consequently, it is usually without effect.

3.)—In *Morphinism*, its action is doubtful.

4.)—CODEINE is to be recommended as an *extremely prompt Sedative* in affections of the Respiratory tract. It might also be employed where a medicament to quiet and to alleviate pain must be given continuously *for a long time;* or when a change of remedy is necessary in such cases.

5.)—CODEINE is *devoid of any injurious* or even merely disagreeable *accessory effects*, aside from an occasional, slightly itching eruption, which, however, disappears in a few days. ([238])

---

* **Ergotin**—[*See* "MERCK'S INDEX," p. 45.]—**Subcutaneously!**—In opposition to other authors, Dr. AUFRECHT ([239]) recommends the *Subcutaneous* employment of ERGOTIN. The action of the medicament is much *more certain*, and the application, when properly made, almost entirely *devoid of pain*.

There are four requisites to the proper subcutaneous application of ERGOTIN,—as follows:

1.)—*Aqueous* solutions only.

2.)—The employment of the DIALYZED ERGOTIN-*Bombelon* in solutions *not older than* 5 *days*.

3.)—*Careful disinfection* of the syringe.

4.)—Injection into the *abdominal walls*, or *sides of the thorax*.

—The author's formula reads as follows:

| | |
|---|---|
| DIALYZED ERGOTIN-*Bombelon* | 1 gramme [15 grains]. |
| Distilled Water | 9 grammes [2¼ fl. drs.]. |
| Carbolic Acid | 2 drops. |

*For Subcutaneous injections:* 2 syringefuls [30 minims] per dose (for adults),—repeated, if necessary, the same day.

---

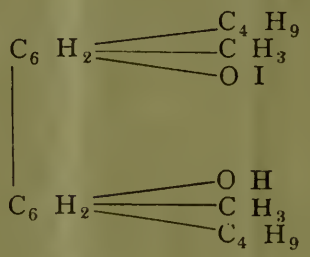
(238) For *other recent reports* on CODEINE, *see* MERCK'S BULLETIN, 1890; p. 18.

(239) *Münchener Medizinische Wochenschrift*, 1891; p. 485.

This formula is stated to be useful in *Hemoptysis* as well as in *Typhoid*, *Vesical*, and *Uterine hemorrhages*.

---

***Europhen** (240) [**Iodo-di-iso-butyl-ortho-cresol**],—another new **Dermic Remedy**,—is a substance formed by the action of Iodine upon Iso-butyl-ortho-cresol. Its formula is:




It appears as a fine yellow powder of an aromatic saffron-like odor; insoluble in water and in glycerin, readily soluble in alcohol, in ether, in chloroform, and in oil; percentage of Iodine, 28.1. EUROPHEN is permanent in the dry state; but when *heated* with water to 70°C [158 F], or if left in contact with *moisture* even at ordinary temperature, it gives off free Iodine. Solutions and ointments of EUROPHEN should therefore be prepared in the cold. Its *oily* solutions should always be *filtered*, as a sediment—owing to the formation of a second Iodine compound insoluble in oil, but not to the EUROPHEN itself—gradually deposits in them. According to the observations thus far made, EUROPHEN appears to be *non-poisonous*. Dr. P. J. EICHHOFF, Chief Physician of the HOSPITAL FOR SKIN DISEASES AND SYPHILIS, at Elberfeld, reports (241) on 33 cases in which he employed EUROPHEN. These include Ulcus durum, Ulcus molle, Condyloma, Gonorrhea, Ulcus cruris, Lupus, Psoriasis, Eczema, Favus, and Scrophuloderma. All the *venereal* cases were *favorably influenced* by the EUROPHEN save Gonorrhea; the cases of *Ulcus molle* were *promptly cured* by simply dusting with EUROPHEN in substance; *Constitutional Syphilis* in every form was benefited by the external application of EUROPHEN (in substance), as well as by subcutaneous injections of the latter remedy in oily solution (0.015-0.1 gramme [¼-1½ grains] once daily).

Of the *non-venereal* affections, all were benefited by EUROPHEN (5-10% ointments) except Eczema parasitarium, Psoriasis, and Favus.

---

(240) ***N. B.***—*Not to be confounded* with EUPHORIN (!) [*Phenyl-Ethylic Urethane*], described in the *January Number* of present Volume.

(241) *Therapeutische Monatshefte*, 1891; p. 379.

—Besides its non-poisonousness and freedom from disagreeable odor, EUROPHEN, according to Dr. EICHHOFF, possesses the advantage, over Iodoform, of great *attenuability*, owing to its lightness in weight: 1 part of EUROPHEN will cover as great a surface as 5 parts of Iodoform.

---

***Formic Acid** (FORMYLIC ACID)—[*See* "MERCK'S INDEX," p. 4.]—in **Surgical Tuberculosis.**—In a paper read at the Twentieth Congress of the GERMAN SURGICAL ASSOCIATION, held at Berlin, April 1st–4th, 1891, Dr. SENGER, of Crefeld, reports ([242]) on the use of FORMIC ACID in *Surgical Tuberculosis.—The difference in action* observed from injections of Iodoform-Glycerin according to the *source* of the Glycerin used in the latter, induced him to examine into the *cause* of this difference, which was found to be the variable proportion of FORMIC ACID contained in the Glycerin. The *less pure* the latter, the *greater* was the quantity of FORMIC ACID in it.

Observation tended to prove that it is the FORMIC ACID which exerts a favorable influence on tuberculous processes: for on the very *decomposition* (by oxidation [‡]) of the Iodoform into free *Formic Acid* and *Hydro-iodic Acid*, depends the beneficial action of Iodoform injections in Surgical Tuberculosis. Consequently, FORMIC ACID was added to the injections—as *Sodium Formate*, or *pure*. In consequence, favorable results were obtained in cases in which Iodoform alone had had no effect.

In children the following solution was employed for the injections:

> SODIUM FORMATE, 0.5–1.5 grammes [7½–23 grains]; Iodoform, 2 grammes [30 grains]; Glycerin, 20 grammes [4 fl. drs.].—*Inject a syringeful* (15 *minims*) *every* 8–10 *days.*

For adults the quantity of SODIUM FORMATE in this formula was increased to 4 grammes [1 dr.].

In *Articular Tuberculosis* this solution was injected *directly into the swollen bone*, and with excellent results. A child with Tuberculous Arthritis, treated in this manner, could walk about in a fortnight, and was still perfectly well at the date of the report,—some 6 months later.

FORMIC ACID *alone* was tried in a boy with large *Tuberculous Glands* of the neck, in a 60 year-old man with *Tuberculous Inflammation* of the ankle-

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(242) *Wiener Medizinische Presse*, 1891; p. 676.

(‡) This should probably read "*by hydration*": $CHI^3 + 2\ H_2O = CH_2O_2 + 3\ HI$.—ED. M. B.

joint, and in a case of *Lupus erythematodes*, with *very favorable results in all.*

The author, however, considers more extensive investigations necessary to establish the value of FORMIC ACID: still the latter is a substance capable of energetically provoking local inflammation and—under circumstances—suppuration, without doing harm. It is closely related to Cantharidin (see pages 61-63 of *present Volume!*), physiologically, but has *far less poisonous* action on the nerves and internal organs.

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*** Gold tri-Chloride,**—Au $Cl_3$,—in **Lupus.**—Dr. J. RÜSIN reports ([243]) the case of a peasant woman with extensive Lupus of thirteen years' standing, *successfully* treated by the subcutaneous injection of a 1% solution of GOLD TRI-CHLORIDE in combination with a 1% solution of POTASSIUM CYANIDE, diluted with a 2% solution of Peptone. Nearly the whole face, nose, and forehead were involved,—the cheeks, forehead, chin, and hard palate being studded with ulcers, the discharge from which contained tubercle bacilli.

Six injections—containing from 0.00012 to 0.0012 gramme [$\frac{1}{500}-\frac{1}{50}$ grain] of both salts together—were given in eleven days. On the second day of the treatment, the subjective state markedly improved; on the third, the swelling of the face subsided, some old scars began to shed cuticle, and a labial ulcer distinctly decreased; on the sixth, some ulcers on the cheeks and hard palate commenced to heal, while the facial tumefaction and pain disappeared altogether; on the twelfth, several ulcers soundly healed, and the remaining ones became clear and covered with healthy granulations.

Of accessory phenomena, there were observed a kind of intoxication, drowsiness, rigor, and slight elevation of temperature. These symptoms made their appearance on the fourth day of the treatment, and disappeared spontaneously the next day.

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*** Mercurials** in **Pulmonary Tuberculosis.**—Dr. STRISOWER, of Odessa, reports ([244]) on his three years' experience with inunctions of BLUE OINTMENT in the treatment of Pulmonary Tuberculosis, for which

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(243) *Meditzinskoïe Obozrenië*, 1891; p. 509.

(244) *Berliner Klinische Wochenschrift*, 1891; No 22.

so many remedies have recently been recommended ([245]). Under the influence of this treatment,—which, naturally, is applicable only in the first two periods of the disease,—the cough diminished, in some cases even ceased entirely; the sputum decreased in quantity and changed from purulent to mucous; the appetite improved; and the morbid perspiration ceased. The bacilli diminished in number, at times even disappeared entirely. There was such improvement in the symptoms that auscultation and percussion could but with difficulty detect anything abnormal. After a few inunctions the temperature fell to the normal.

As for the mode of employment, 2 grammes [30 grains] of the BLUE OINTMENT (33⅓%) were rubbed into the chest and back of the patient, twice daily; after every 4th inunction a warm bath was given. If salivation or stomatitis survened, the treatment was discontinued for a few days.

The patients seem to bear the mercurial application well: in some of the author's cases. as much as 180 grammes [6 oz.] of the ointment were rubbed-in, without thereby producing salivation. In case of a relapse the treatment is repeated.

The following case is fairly illustrative of the results obtained from the treatment in question:

A man, aged 28, complained of weakness, annoying cough, which increased at night, diarrhea, and great thirst. Diffuse moist *râles* in both lungs; crepitation in and considerable dullness over the apices; bronchial breathing over the shoulder-blade, in the region of the supraspinous fossa; gurgling in the intestines; sputum rich in bacilli; evening temperature 39 3° C [102.7 F].—After 8 inunctions no more diarrhea, temperature normal, expectoration moderate, general condition better. After 4 months' treatment (with intervals of a few days), during which 180 grammes [6 oz.] of BLUE OINTMENT were used, the patient ceased to cough and to sweat, and recovered sufficiently to be able to attend to a non-fatiguing occupation. Physical examination showed a decided diminution of the *râles* and of the dullness. The number of bacilli was not affected.

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*** Peptonized Iron,**—[*See* 'MERCK'S INDEX," p. 74.]—**Subcutaneously, in Nervous Affections.**—Dr. ROSENTHAL ([246]), of Vienna, strongly advocates the *subcutaneous* employment of IRON in Nervous Affections. He has proved by experiments on his own person that the Iron is absorbed

(245) *See* MERCK'S BULLETIN, 1891; pp. 29, 45, 49, 61, 63, 96.

(246) *Pester Medizinisch-chirurgische Presse*, 1891.

within 30-40 minutes after its injection, for it can then be detected in the urine.

PEPTONIZED IRON is recommended for the purpose, and is used in 10% aqueous solution,—a syringeful [15 minims] being injected every other day.

IRON OLEATE in 5% solution (in Olive Oil) is also recommended, to be used like the PEPTONIZED IRON: but the latter deserves preference on account of its greater *solubility* and *permanence*.

The subcutaneous administration of IRON is recommended in delicate, *neurasthenic* persons and in *Asthenic Dyspepsia*, which is so often associated with Anemia, and in which even small internal doses of IRON may provoke considerable digestive disturbance. According to Dr. ROSENTHAL, disagreeable accessory symptoms never survene.

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***Pseudo-conhydrine, — the New Conium Alkaloid.**— Conjointly with G. ADAM, Prof. LADENBURG ([247]) gives some further details concerning this new alkaloid, discovered by E. MERCK of Darmstadt and briefly described in a previous number of this journal ([248]).

PSEUDO-CONHYDRINE is readily soluble in water, in alcohol, in ether, and in benzene. Its salts are also very soluble. Its melting-point lies between 100-102° C [212-215.6 F]; but it sublimes at a lower temperature in fine needles, and boils between 229-231° C [444.2-447.8 F]. ([249])

PSEUDO-CONHYDRINE is *optically active*, and, like Conhydrine, must be a *secondary base*; since it yields a *Nitros-amine* upon heating its Hydrochlorate with Sodium Nitrite. The formation of an *Iodine-derivative* by treatment with Hydro-iodic Acid, in which an Iodine atom replaces a hydroxyl group, also determines that, like Conhydrine, it belongs to the class of bodies called "*Alkines*."

In all probability Conhydrine is *Piperidyl-ethyl-alkine*,—$C_5 H_9(CHOH.CH_2.CH_3) NH$,—while PSEUDO-CONHYDRINE is the analogous derivative from *Iso-propyl-piperidine*.

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***Pyoktanin as an Anti-tubercular.**—Dr. MASINI ([250]) made two series of *Animal Experiments* with PYOKTANIN, with a view to determining

(247) *Berliner Chemische Berichte*, Vol. XXIV; p. 1671.

(248) MERCK'S BULLETIN, 1891; p. 34.

(249) *Compare with* MERCK'S BULLETIN, 1891; p. 35.

(250) *Wiener Medizinische Presse*, 1891; p. 1099.

its power as an Anti-tubercular in *Pulmonary Tuberculosis*. In the first series, three cubic centimetres [48 minims] of a 0.2% solution of PYOKTANIN were injected simultaneously with sputum containing tubercular bacilli; this procedure being repeated on each of the two following days. The result was that *all the animals remained healthy*.

In the second series of experiments, the injections were commenced 3–4 weeks *after tubercular infection had been effected*, and were continued for 3 days, after which the animals were killed. *In not one of these animals were there any tuberculous changes* found on post-mortem examination.

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*** Pyoktanin** as a **Granulator in Ulcerating Cancroid.**—Dr. VON SEHLEN reports ([251]) the case of a man, aged 70, with Ulcerating Cancroid, in which he had *remarkable success* with PYOKTANIN. The tumor was situated in the middle of the cheek, and was as large as a two-cent piece. PYOKTANIN in substance was applied and kept *in situ* by means of plaster and glue.

Within five days, the secretion had already diminished considerably, and the ulcer was flatter. The dressing was now renewed twice weekly; later, but once a week. The surface of the ulcer rapidly cicatrized, until, after two months' treatment, nothing was left of the Cancroid save a slightly discolored scar.

---

*** Pyoktanin** in **Diseases of the Eye.**—Dr. MARCHETTI ([252]) has made an extensive series of investigations of PYOKTANIN at the Clinic for Diseases of the Eye, UNIVERSITY OF PALERMO, and has arrived at the following conclusions:

1.)—In ½% solution and in pencil form, PYOKTANIN (*Blue*) is well borne by the eye.

2.)—It is an *excellent remedy* in *Dacryocystitis* with denuded nasal bones: it *accelerates cure* in a surprising manner.

3.)—In a number of cases of *Chronic Blennorrhea* of the Lachrymal sac, PYOKTANIN proved *very serviceable* in diminishing the secretion.

4.)—In extensive *Corneal Infiltrations* with loss of substance, and showing no tendency to heal, the action of PYOKTANIN is striking.

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(251) *Monatshefte für Praktische Dermatologie*, Vol. XII; No. 12.

(252) *Wiener Medizinische Presse*, 1891; p. 1099.

5.)—In *Hypopyon-keratitis*, PYOKTANIN exerts a *surprising* influence on the suppuration; sometimes the hypopyon is gone and the ulcer has a healthier appearance after only 24 hours of treatment.

6.)—In Hypopyon-keratitis *complicated* with an affection of the lachrymal duct, PYOKTANIN has no effect.

7.)—In a case of *Panophthalmia*, following upon Cataract, PYOKTANIN *arrested the suppuration.* As early as after 24 hours, the troublesome subjective symptoms disappeared; the disease ran a slow course, and assumed the character of a plastic interstitial Choroiditis and Iridocyclitis.

8.)—In a case of Panophthalmia subsequent to an injury to the cornea, the application of PYOKTANIN (instillation of a 1 : 1000 solution, 2–3 times daily) *exceeded all expectations:* its *energetic* and *prompt* action prevented the imminent Iridocyclitis from appearing.

9.)—In *Blepharitis* and in *Eczema* of the lids, *Yellow* PYOKTANIN, in powder form or in ointment, renders good service. ([253])

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* **Resorcin,**—[*See* "MERCK'S INDEX," p. 122.]—**Internally,**—as an **Antiemetic, Antizymotic, Anodyne, Sedative** and **Hypnotic.**—Dr. H. MENCHE, of Rheydt, after 9 years' extensive experience with the *internal use* of RESORCIN,—first suggested to him in 1882 by Privy Councillor BINZ, of Bonn, and briefly described in a previous number of this journal ([254]),—reports ([255]) as follows:

In *Cholera morbus* of children, a RESORCIN solution of 3–5 : 1000 was administered,—a tea- to a dessertspoonful every 2 hours,—with *prompt success:* the vomiting invariably ceased soon, the previously restless and crying little patients fell asleep, and the stools gradually became smaller, and firmer in consistence.

In cases where the chief symptom is *severe diarrhea*, a little Opium is added to the solution. It is wrong, however, to give nothing but Opium,—as is often done,—in the disease in question, in which the gastro-intestinal canal is filled with products of fermentation: the non-disinfected contents of the stomach and intestines are absorbed, the fever continues, and the patients—even those very capable of resisting the disease—make but a *slow*

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(253) For *other* reports on PYOKTANIN, *see July* Number, p. 96; and foot-note 179 thereon.

(254) MERCK'S BULLETIN, 1888; p. 20.

(255) *Centralblatt für Klinische Medizin*, 1891; No. 20.

recovery. On the other hand, cases treated with RESORCIN *and* Opium convalesce *very quickly*.

Of course this treatment must be combined with strict regulation of the diet, and Priessnitz's pack or luke-warm baths.

In *Cholera nostras* of adults, a 1% solution of RESORCIN always arrests the vomiting, and causes the disease to take a rapid and favorable course.

The excellent results obtained from RESORCIN in the treatment of Cholera morbus and Cholera nostras, warrant a trial of the same medicament also in *Cholera asiatica*.

RESORCIN is indicated in all forms of *Gastritis:* in Dyspepsia following imprudence in diet or drinking, in Acute Gastritis, in the advanced form of Dyspepsia, in chronic gastric disturbances accompanied with an excessive formation of Hydrochloric Acid, in Regurgitation; *chiefly*, however, in *Chronic Gastric Catarrh*. It is a question whether *only* the *Antizymotic* property of RESORCIN comes into play in these affections, because the disturbances, the pains, eructations, etc., usually cease after but a few tablespoonfuls of the 1% solution of RESORCIN have been taken,—that is, before any material disinfection of the gastric contents can have been effected. RESORCIN probably exerts a *specific Anodyne* influence on the stomach, and acts as a *Sedative* of increased gastric peristalsis. In Chronic Gastric Catarrh eructation promptly disappears, vomiting and cardialgia cease, the patient's frame of mind becomes more cheerful, sleep is sound and refreshing, and appetite and normal digestion return.

RESORCIN *may be prescribed with acids or with alkalis*,—a fact of no mean value,—and also equally well with various tinctures; but *its solutions must be dispensed* in dark bottles, on account of its sensitiveness to light.

RESORCIN is to be warmly recommended in *Dilatation of the Stomach*, and in *Gastric Carcinoma*. It is *counter-indicated*, however, *in recent Ulcus ventriculi*.

—The *most striking* action of RESORCIN is that of an *Anti-emetic*. In this capacity it was employed in the *Vomiting in Pregnancy*, in *Peritonitis*, and in *Sea-sickness*, with excellent result.

Many anti-emetics have been recommended for Sea-sickness; thus far, however, failures have been in equal proportion to the number of remedies tried. RESORCIN, however, is an *ideal Anti-emetic* in this affection; it is surprisingly efficacious, and reliable in action. It is best to take three

powders, each containing 0.1–0.15 gramme [1½–2¼ grains], at intervals of 2 hours, *before* getting on board the steamer, and continue this dose at the same intervals the first day. Should Sea-sickness survene later on in the voyage, the same doses are to be taken *hourly*. As a result of the medication, sleepiness soon appears, even in restless children.

One might imagine that, similar to the sedative influence on the gastric nerves, *large doses* exert a sedative effect on the central nervous system. So it happened that RESORCIN was administered as a *Hypnotic* in a number of cases of Agrypnia from severe Cough, in Typhoid Fever, in Phthisis, etc., with or without fever. The results were most satisfactory: headache and dizziness, if present, were soon dispelled; and sleep followed,—usually of several hours' duration, sometimes, however, lasting uninterruptedly *all night*.—The doses were of 0.25–1.0 gramme [3¾–15 grains],—according to the severity of the disease.

—The most important factor in the attainment of good results is the employment of *only absolutely pure* RESORCIN. harm may be done by the abundant impurities present in some of the inferior makes of RESORCIN. The *best* results have been obtained from **Resorcin, chem. pure, resublimed, perfectly white,**—introduced and manufactured only by **E. Merck**, of Darmstadt. The good results obtained by Dr. H. MENCHE are expressly referred by him *only to this preparation*, which was employed uninterruptedly *for months*,—in 1% solution even *over a year* (in a case of Carcinoma of the Stomach),—*without producing any disturbance* beyond a slight burning sensation in the urethra during micturition. The urine remained free from albumin, and was not colored.

## RESORCIN FORMULAS.

(***N. B.***—RESORCIN-*Mixtures must always be dispensed in black bottles!*)

—Cholera-Morbus Mixture for Children.—

RESORCIN MERCK, CH. P., RESUBL., PERF. WHITE
0.3–0.5 gramme [4½–7½ grains].
Distilled Water.....80 grammes [ 2⅝ fl. oz. ].
Opium Tincture (Ph. G.).....0.5 gramme [ 8 minims ].
Syrup.....20 grammes [ ½ fl. oz. ].

*or—in place of* the Opium Tincture :—

Bitter Tincture (§) ..... 1 gramme [16 minims].

*Teaspoonful to Dessertspoonful every 2 hours.*

—Vomit and Diarrhea Mixture for Adults.—

| | | |
|---|---|---|
| Resorcin Merck, ch. p., resubl., perf. white | 2 grammes | [ 30 grains ]. |
| Distilled Water | 180 " | [ 6 fl. oz. ]. |
| Bitter Tincture (§) | 5 " | [80 minims]. |
| *or* | | |
| Opium Tincture (Ph. G.) | 2 " | [ ½ fl. dr. ]. |
| Syrup | 20 " | [ ½ fl. oz. ]. |

*Tablespoonful every 2 hours.*

(In Gastric Affections with Diarrhea, Peritonitis, Vomiting of Pregnancy, etc.)

—Antidyspeptic Mixture.—

| | | |
|---|---|---|
| Resorcin Merck, ch. p., resubl., perf. white<br>Hydrochloric Acid (1.124) | *each*, 2 grammes | [½ dram]. |
| Syrup Orange-peel | 20 " | [½ fl. oz.]. |
| Distilled Water | 178 " | [6 fl. oz.]. |

*Tablespoonful every 2 hours.*

(In Acute Gastritis, Dyspepsia, etc.)

—Cathartic.—

| | | |
|---|---|---|
| Resorcin Merck, ch. p., resubl., perf. white | 2 grammes | [ 30 grains ]. |
| Distilled Water | 175 " | [5⅞ fl. oz.]. |
| Vinous Rhubarb Tincture (Ph. G. III) | 5 " | [80 minims]. |
| Buckthorn Syrup | 20 " | [ ½ fl. oz. ]. |

*Tablespoonful every 2 hours.*

(In Gastric Affections with Constipation.)

—Stomachic and Laxative.—

| | | |
|---|---|---|
| Resorcin Merck, ch. p., resubl., perf. white | 2 grammes | [ 30 grains ]. |
| Rhubarb Infusion | 6–8 : 180 " | [1½–2 drs.: 6 fl. oz.]. |
| Sodium bi-Carbonate | 8 " | [ 2 drams ]. |
| *or* | | |
| Vinous Rhubarb Tincture (Ph. G. III) | 5 " | [ 80 minims ]. |
| Peppermint Oil-sugar | 10 " | [ 2½ drams ]. |

*Tablespoonful every 2 hours.*

(In Gastric Catarrh with Constipation.)

(§) Bitter Tincture, Ph. G. III,=Centaury 3 parts, Gentian 3 parts, Bitter Orange-peel 2 parts, Orange-berries 1 part, Zedoary 1 part, Alcohol (0.894) 50 parts.—Digest for a week, express and filter.

—Gastric-Carcinoma Mixture.—

RESORCIN MERCK, CH. P., RESUBL., PERF. WHITE..2 grammes [ 30 grains ].
Condurango Decoction.....15 : 180 " [½ oz.: 6 fl. oz.].
Vinous Rhubarb Tincture (Ph. G. III).....5 " [ 80 minims ].
Syrup Orange-peel.....20 " [ ½ fl. oz. ].

*Tablespoonful every 2 hours.*

—Sea-sickness Powders.—

RESORCIN MERCK, CH. P., RESUBL., PERF. WHITE
3-4.5 grammes [45–70 grains].
Milk-Sugar.....15 " [ ½ ounce ].

Divide into 30 powders, and dispense in Wax Paper!—*One powder every 2 hours.*

—Hypnotic.—

RESORCIN MERCK, CH. P., RESUBL., PERF. WHITE....0.5 gramme [7½ grains].

*Take at night, in water.*

# SELECTIONS.

## JAMBUL IN DIABETES MELLITUS. (256)

LEWASCHEW (*Berlin. Klin. Wochenschrift*, Feb. 23, 1891) reports two cases of this disease, in which JAMBUL (Syzygium Jambolanum) was tried; the results in both were so similar that he gives the details of only one case. A patient, 62 years of age, with well-developed symptoms of diabetes mellitus of five years' standing, was given 5 drachms of the SEED, *in powder form*, daily. Under this treatment, continued for a considerable time, the dose being still further increased to over six drachms, the drug had an efficient influence over the symptoms of the disease, and produced a general improvement. The body-weight increased; there was marked reduction in the quantity of urine and sugar passed; the great thirst and hunger became less troublesome, and the condition of depression and weakness was greatly relieved. There was not observed a complete disappearance of the sugar from the urine. LEWASCHEW believes that failure to get success with this drug is due to its administration in too small doses. (257)

## NAPHTHALENE IN TAPE-WORM. (258)

According to the observations of MIROVITCH (*Mercredi Médical*, May 2, 1891), NAPHTHALENE is a powerful tænicide, being *superior* to other anthelmintics both in the *certainty of its action* and in the *absence of any toxic effect*. For children, the author employs the following formula:

(256) *University Medical Magazine*, 1892; p. 482.

(257) *See also:* "Jambul," in MERCK'S BULLETIN, 1890; p. 4;—and: "Jambul in Glycosuria," in DO., 1891; p. 9.

(258) *University Medical Magazine*, 1891; p. 735.

| | |
|---|---|
| NAPHTHALENE | 4½ to 7 grains. |
| Castor Oil | ½ ounce. |
| Bergamot Essence | 2 drops. |

To adults, fasting, fifteen grains of NAPHTHALENE are given, followed immediately by an ounce of Castor Oil. For two days preceding the administration of the drug, the diet should be well salted, acidified, and highly spiced. In all the cases observed by MIROVITCH, *a single dose of* NAPHTHALENE *has sufficed to bring away the tænia complete* even in cases in which other remedies have failed.

## RESORCIN THERAPEUTICALLY. (259)

*By ALFRED EICHLER, M.D., San Francisco.*

RESORCIN, if exposed to light or kept in a moist place, will soon acquire a reddish tinge, but it does not lose its activity. It is soluble in water and alcohol, also in ether. Solutions assume on standing a darker, whiskey-like color, *without any impairment of their activity*. In very concentrated solutions it acts as a mild caustic, if applied to mucous membranes; it does not irritate sound skin, however. When sufficiently diluted it seems to have a soothing effect on inflamed surfaces and also on the mucous membranes. Internally it may be administered in doses ranging from two to fifteen grains.

RESORCIN is to be preferred to Carbolic Acid in all instances when the latter proves too irritating. Consequently it is especially useful in all affections of the mucous membranes; it is then used in aqueous solution, largely diluted. A three to five per cent solution is mostly preferred. In Catarrh of the Posterior Nares and of the Pharynx it is found to be an excellent application; it is also useful in all affections of the upper air passages. A good formula is presented by the following:

| | |
|---|---|
| RESORCIN | 2 drams. |
| Sodium Salicylate | 1 dram. |
| Sodium bi-Borate | 1 dram. |
| Glycerin | 2 fl. oz. |
| Water | *enough to make* 8 fl. oz. |

*Use freely three times daily.*

This solution will soften and bring away all hardened secretion, relieve the congestion and lessen the usual discharge. For thus cleansing the naso-pharynx a posterior nares syringe should be used instead of a nasal douche, which, in unskilled hands, is very likely to create mischief, that is, inflammation of the middle-ear. In many other affections of the air-passages does RESORCIN give great relief. Whooping-cough, Asthma, Bronchitis, and Laryngeal Ulcers are benefited by it. It is especially valuable in chronic ailments of this kind; it is of less use, however, in the acute affections—like Croup and Diphtheria. It should be applied in diseases of the throat with an atomizer or inhaling apparatus. A five to ten per cent solution will serve all purposes.

RESORCIN sometimes acts charmingly in other diseases of the mucous surfaces; it is an excellent injection in all stages of Gonorrhea, although it here also produces more

(259) *Medical and Surgical Reporter*, 1891; No. 5.

benefit during the latter stages; in inflammation of the neck of the bladder it may also be employed. From two to five per cent solutions will be the proper strength to use.

—The *internal* use of RESORCIN is chiefly limited to producing its antifermentative action. In Gastric and Intestinal Catarrh, Dilatation and Ulcer of the Stomach, and in all those diseases where gases are produced in the alimentary canal, its use is indicated. *Impure* RESORCIN *is said to occasion vomiting;* but, according to ANDEER,* *pure* RESORCIN *is one of the very best and most certain remedies against Vomiting*, and he says that it will prove efficient in all possible forms of vomiting—as in those caused by pregnancy, kidney and liver diseases, also by sea-sickness and after excessive eating and drinking of alcoholic liquors. The doses as applied by him range from five to forty grains. It is most conveniently administered in capsules.

# GATHERED FORMULAS.

24 and 25.—**IRON, SUBCUTANEOUSLY,** in Chlorosis.—

[M. E. MAGAGNI (260).]

—Solution.—

| | | |
|---|---|---|
| IRON PYRO-PHOSPHATE WITH AMMONIUM CITRATE (*Double Salt*) | 4 grammes | [ 1 dram ]. |
| Distilled Water (boiled) | 20 " | [5 fl. drs.]. |

*Or:*

—Solution.—

| | | |
|---|---|---|
| IRON CITRATE | 3 grammes | [46 grains]. |
| Distilled Water | 10 " | [2½ fl. drs.]. |

*Inject a syringeful* (15 minims) *into the gluteal region.*

26.—**CHLORAL HYDRATE** in Anthrax.—[SPOHN (261).]

—Lotion.—

| | | |
|---|---|---|
| CHLORAL HYDRATE | 20 grammes | [ 5 drams ]. |
| Glycerin | 90 " | [2⅜ fl. oz.]. |
| Distilled Water | 90 " | [3 " " ]. |

*Externally!*

[A gauze compress, dipped into this solution, is applied to the affected part, and constantly kept moist.—According to the author, incision is unnecessary.]

(260) *Semaine Médicale*, 1891; No. 24.

(261) *Semaine Médicale*, 1891; No. 23.

# STRAY ITEMS.

No. 6.

## COMPOSITION OF THE HUMAN PANCREATIC JUICE.

No exact analysis of the PANCREATIC JUICE in the healthy human subject having been published, advantage has been taken by Dr. ZAVADSKI (‡) of a case recently operated-on in Warsaw, to obtain such an analysis. The patient was a young woman with a cystic tumor of the pancreas. This tumor was removed by Professor KOSINSKY by means of the thermo-cautery. On the seventh day the tampon which had been put in was taken out, and a drainage tube inserted. At first the discharge was purulent, and then for a time watery; but subsequently it consisted of the PANCREATIC JUICE alone. Before the wound healed, which it did in about seven weeks after the operation, the secretion of twenty-four hours was collected and examined. It was a somewhat tenacious, yellowish, turbid liquid, with a marked alkaline reaction. An analysis of it gave the following results:

| | |
|---|---|
| **Water** | 86.405 per cent. |
| **Organic Compounds,**—including *Albuminoid Substances* (9.205%), and *Extractive Matter* soluble in alcohol, estimated as Nitrogen (0.827%) | 13.251 " " |
| **Salts,**—consisting of Carbonates, Chlorides, Phosphates, and Sulphates of Sodium, Potassium, Calcium, and Iron | 0.344 " " |
| Total, | 100.000 per cent. |

At a temperature of 100° F [37.7 C], this PANCREATIC JUICE actively converted starch into maltose, egg-albumen into peptone, and olive oil into an emulsion.

On comparing the human PANCREATIC JUICE with that of other animals, it was found to resemble most nearly that of the dog according to SCHMIDT'S analysis.

(‡) *The Lancet*, 1891; p. 948.

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# MERCK'S BULLETIN

A Periodical Record of New Discoveries, Introductions, or Applications of Medicinal Chemicals.

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ANTIPRURITICS *in Urticaria.*—[LOTION; DUSTING-POWDER.]

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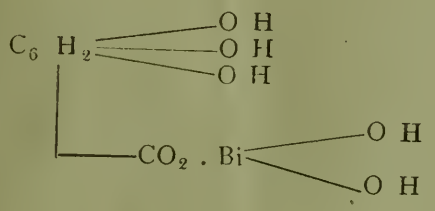
***Substances marked thus (†) are NOT YET in the market. (Will be noticed again when obtainable.)***

***Ammonium Salicylate**—[*See* "MERCK'S INDEX," p. 15.].—Prof. GOLL states ([262]) that AMMONIUM SALICYLATE is to be preferred, as an **Expectorant**, to Senega and Quillaya. The unpleasant taste of the medicament can be entirely disguised by wafers.

---

***Bismuth sub-Gallate,** (BISMUTH GALLATE, BASIC), as a **Dermic and Traumatic Antiseptic,** etc.

BISMUTH SUB-GALLATE—



—was first produced in 1841. It was ignored by therapeutists, however, until recently, when it was lauded as an excellent dry antiseptic, fit to be a Succedaneum for Iodoform. It is an exceedingly fine, non-hygroscopic, saffron-yellow powder, wholly inodorous, and very permanent to light and air; containing 55% of Bismuth Oxide. As it is insoluble in the ordinary solvents, its antibacterial action can only be developed by intimate contact with the affected region. The strongly desiccant property of BISMUTH SUB-GALLATE is of value in its employment as a Vulnerary and in Dermatotherapy, and this the more so as it is also held to be *non-irritant* and *non-toxic*.

According to R. GLAESER, of Breslau ([263]), BISMUTH SUB-GALLATE *stimulates* granulation and *diminishes* wound-secretion. In Burns, Weeping Eczemas, Ulcerations (including Crural Ulcers), etc., it was employed with advantage—; it is also credited with favorable results in Otorrhea. Its *non-irritant* qualities and the *very fine pulverulence* to which it can be reduced adapt it also for Ophthalmiatrical practice.

---

(262) *Correspondenzblatt für Schweizer Aerzte*, 1891; No. 10.

(263) *Semaine Médicale*, 1891; No. 27.

Externally, BISMUTH SUB-GALLATE is used as a dusting-powder, without admixture; in Vaselin- or Lanolin-ointment; and in Collodion-emulsion (1.5 : 10). For covering or filling wound-cavities, 10–20% Gauze may be resorted-to.

## BISMUTH SUB-GALLATE FORMULAS.

By R. HEINZ.

—For Vaginal Tampons.—

BISMUTH SUB-GALLATE..... 20–30 parts by weight.
Glycerin..... 150 " "
*Shake before impregnating the tampons.*

—Dusting-powder.—

BISMUTH SUB-GALLATE..... 20 parts by weight.
Talcum..... 70 " "
Starch..... 10 " "
(For sweating feet.)

—Ointment.—

BISMUTH SUB-GALLATE..... 10–20 parts by weight.
Vaselin..... *enough* to make 100 " "
*Externally!* (For Ulcerations.)

—Ointment.—

BISMUTH SUB-GALLATE..... 10 parts by weight.
Lanolin..... 80 " "
Vaselin..... 10 " "
*Externally!* (For Ulcerations.)

HEINZ AND LIEBRECHT ([264]) believe that BISMUTH SUB-GALLATE will evince itself a fit Succedaneum for Bismuth sub-Nitrate, *internally*, in diseases of the Stomach and Intestine, and in catarrhal and ulcerative processes accompanied by profuse diarrhea. The sub-Gallate salt, it is stated, can be given in much larger doses than the Bismuth sub-Nitrate.

(264) *Berliner Klinische Wochenschrift*, 1891: No. 24.

***Cetraric Acid,** (Cetrarin—[*See* "MERCK'S INDEX," p. 35.]), as a **Hematinic** and **Peristaltic.**—On the strength of the reports of KOBERT and RAMM (as published in a previous number [265]), wherein they point out the corpuscle-multiplying and peristaltic properties of CETRARIN, PAUL TERRAY (266) administered it to a number of patients in doses of 0.1 gramme [1½ grains] and upward. CETRARIN was employed in a 19-year old, chlorotic girl, with anorexia and obstinate constipation. This had not been relieved by 32 Bland's Pills given in 11 days, and clysters were resorted-to. After 15 days of the latter treatment she was again constipated for as long as three days consecutively.

The patient now received 0.1 gramme [1½ grains] CETRARIN noonday and evening, a quarter of an hour before meals, whereupon next morning an abundant, solid stool passed. For three days more the CETRARIN medication was continued, the total amount ingested being 0.8 gramme [12 grains]. Since then the girl's appetite improved greatly; stools were had twice daily, and she was not again constipated during her sojourn at the Hospital; the proportion of Hemoglobin rose rapidly from 30 to 70, and the number of red corpuscles increased from 3,800,000 to 4,760,000; menstruation, which had been absent for two months, again set-in;—in short, a marked improvement was observed.

—Also in other cases (Pleuritis exsudativa, Aneurysma aortæ, Echinococcus hepatis), in which obstinate constipation and greater or less anorexia were present, the appetite improved and stools became regular after administration of 0.1–0.2 gramme [1½–3 grains] daily of CETRARIN, for several days. In one case (Gastrectasis), with obstinate constipation, TERRAY prescribed 0.1 gramme CETRARIN twice daily for two days; but in the absence of any effect, he gave 0.2 gramme [3 grains] at one dose in wafers the following evening, and the patient went to stool twice the next day. The same result was had repeatedly in this patient.

—In view of all this, it is believed CETRARIN may be employed like other bitter remedies—as for instance Condurangin, Absinthin, Columbin; Extracts of Gentian, Quassia, and Dandelion; Quinine bi-Sulphate, Strychnine Nitrate, etc.—in cases of Digestive Disturbances combined with Anemia and Chlorosis, *in atonic weakness of the stomach, and for improving*

(265) MERCK'S BULLETIN, 1891; p. 21.

(266) *Pester Medizinisch-chirurgische Presse*, 1891; No. 25.

*the appetite of convalescents.*—In combination with these qualities of CETRARIN, that of a Laxative, as above described, may sometimes be very useful.

---

* **Duboisine Sulphate**—[*See* "MERCK'S INDEX," p. 44.]—as a **Sedative** and **Hypnotic.**—Dr. H. GELLHORN ([267]) recommends DUBOISINE SULPHATE as a *prompt* Sedative, having no dangerous by-effects, in the excitations of psychoses.

The *hypnotic* action of DUBOISINE SULPHATE in *simple* Agrypnia has not yet been fully gauged; perhaps Sulphonal is prompter in this respect. In *excited* patients DUBOISINE SULPHATE generally induces sleep. For these, according to GELLHORN, the dosage is as follows:

*Hypodermically*. 0.0008–0.0012 gramme [$\frac{1}{80}$–$\frac{1}{50}$ grain] per day, at one injection, for *females;* and 0.0012–0.0022 gramme [$\frac{1}{50}$–$\frac{1}{30}$ grain] for *males*. *Internally*, 0.0008–0.0022 gramme [$\frac{1}{80}$–$\frac{1}{30}$ grain]. In continued use the dose must be increased slowly.

---

* **Eseridine.**—Dr. SCHMIDT, of Aachen ([268]) has tested ESERIDINE for efficacy in **Veterinary Practice.** He declared it, as a result of his experience, to be positively *inferior* to Eserine—as have OSTERTAG and FESER before him—and the action of doses to be subject to the greatest variance.—*Compare* also D. SCHWEDER'S report to the same effect, in a previous volume of this journal ([269]).

---

* **Iodoform** — [*See* "MERCK'S INDEX," p. 71.] — by **Parenchymatous Injection,**—in **Soft Goitre.**—Dr. F. KAPPER reports ([270]) on the use of parenchymatous injections of IODOFORM in the treatment of Soft Goitre. Fifteen cases were so treated, with very favorable results in all—a diminution of 8–10 centimetres [3⅛–4 inches] in the circumference of the neck

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(267) *Deutsche Medizinische Wochenschrift*, 1891; No. 30.

(268) *Archiv für Wissenschaftliche und Praktische Thierheilkunde*, Vol. 17; Nos. 1 and 2.

(269) MERCK'S BULLETIN, 1889; p. 73.

(270) *Deutsche Medizinische Wochenschrift*, 1891 No. 28.

being effected. The following solution, which *must always be prepared fresh*,—was employed:

IODOFORM, 1 gramme [15 grains]; Ether and Olive Oil, *of each* 7 grammes [2 fl. drs.].—*Dispense in a bottle covered with black paper.*

Of this solution, a syringeful was injected at intervals of 4–6 days. The canula was plunged into the goitre for a distance of 2–3 centimetres [¾–1⅛ in.], and the contents of the syringe slowly evacuated. A deglutitional movement indicated that the goitrous tissue had been reached. *No mentionable reaction* whatever survened upon the injections.

---

***Iodo-phenin** (*Iodo-phen-acetin*),—a new **Iodine Compound.**—This derivative of Phen-acetin is formed as a dark-brown precipitate, when a saturated cold solution of Phen-acetin, acidulated with Hydrochloric Acid, is mixed with Iodine. By recrystallization from Glacial Acetic Acid, it can also be obtained in steel-blue crystals. The compound has a faint Iodine odor and imparts an acrid, burning taste. It is almost insoluble in Water, difficultly soluble in Benzene and in Chloroform, easily so in Alcohol and in Glacial Acetic Acid. It melts, with decomposition, between 130–131° C [266–267.8 F]. Percentage of Iodine, about 50.

—According to WITTKOWSKY's researches it possesses important antibacterial properties, and its experimental therapeutic employment at the CHARITY HOSPITAL in Paris is reported to have had good effects. But Dr. SIEBEL'S experiments ([271]) with IODO-PHENIN led to so few good results that they do not encourage its therapeutic application. The objection to its use is its strong evolution of Iodine. Subcutaneously it causes inflammation; internally it affects the digestive tract. Iodine intoxication is thus possible even after small doses. SIEBEL concludes from his experience that no specific action can be ascribed to IODO-PHENIN which Iodine has not of itself.

---

***Potassium Arsenite Solution**—[*See* "MERCK'S INDEX," p. 135.]—in **Pernicious Anemia.**—E. A. BARTON, of London, reports ([272]) the

(271) *Deutsche Medizinal-Zeitung*, 1891; p. 527.

(272) *The Lancet*, 1891; p. 287.

following interesting case of undoubted Pernicious Anemia, as illustrating the value of ARSENIC in the treatment of this disease:

J. A. came for treatment Nov. 25th, 1890. He was emaciated and intensely pale; the hands were pearly white, the conjunctivæ lemon-colored, and the ears looked transparently waxy; the gums were very large, spongy and quite pale, and at the junction of the teeth and gums was a thin line of blood; the lips were blanched and the tongue pale but clean; there was no edema of the ankles. He was short-breathed, and felt faint on standing. The lungs were quite sound. The heart had a soft systolic murmur at the apex, and another at the base over the pulmonary cartilage. A marked venous hum was also observed in the neck. The pulse was quick and very compressible. On making a careful examination of the blood, it was found that the corpuscles numbered only 18% of the normal quantity, while the hemoglobin was 23%. The corpuscles themselves varied in size, were soft and plastic, and formed rouleaux readily. The blood was, on being drawn, obviously pale and thin. Large hemorrhages were observed in both retinæ.—Five minims [0.3 gramme] of POTASSIUM ARSENITE SOLUTION were administered three times daily, with very generous diet. A fortnight later, there was *no further bleeding* from the gums, and the patient declared himself *stronger; appetite extraordinary*, for, besides the most nourishing diet of strong soups, etc., three pints of milk were taken daily. In three weeks the patient was able to walk half a mile without fatigue, and in a month returned to work—the corpuscles on Jan. 16th being 76% and the hemoglobin 60%. The hemorrhages into the retinæ had entirely disappeared, except for a slight blur on the right side. The ARSENIC was continued 4 weeks longer.

Recoveries from Pernicious Anemia are so rare that some seem to doubt the authenticity of such cases. Here was a case in which the percentage quantity of hemoglobin and the number of corpuscles were practically the same, showing that each corpuscle contained its right quantity of hemoglobin. The disease, then, was one of diminution in number of corpuscles and corresponding increase in the proportionate amount of plasma. The hemorrhages into the retinæ, from the gums, and probably the kidney, combined to give a grave import to the disease. The rise in one month of the number of corpuscles and quantity of hemoglobin to thrice the quantity under the administration of ARSENIC proves the enormous benefit derived from the drug.

---

**Pyoktanin in Diseases of the Eye, etc.**—The recent *Annual Report* of the SAGINAW HOSPITAL at Saginaw, Mich., contains a lucid statement of the results of PYOKTANIN treatment in 9 cases of Eye Disease, by Dr. WM. E. CONROY, Oculist and Attending Physician to Sagi-

naw Hospital, Fellow of the American Academy of Medicine,—in the introduction to which the author says:

"The true position that PYOKTANIN is to occupy among our numerous Zymocides is not yet established. Probably, as has been the fate of many of its predecessors in this field, it is destined to take its place *midway between the extremes* of being the almost universal panacea as claimed by (its discoverer) STILLING, and of practical worthlessness to which other observers would consign it.

"So far as the writer's observation extends, he feels justified in the opinion that in PYOKTANIN *we have a most valuable addition to our resources* in combating such superficial inflammations as are caused by *Pyogenic Bacteria*, and which can be reached by local applications. One of the most useful qualities of this antiseptic is its great diffusibility when in solution. In two of the cases here reported, the irides which were very slightly pigmented, became tinted with a delicate violet hue within three minutes of the instillation. In every case the cornea remained free from coloration if it were previously healthy, but the most minute specks of ulceration or of abrasion instantly took on a bluish, metallic lustre, plainly visible to the naked eye.

"In all of the cases, more or less dilatation of the pupil was observed, but not, as STILLING asserts, without any paralysis of accommodation. Considerable anesthesia generally followed the instillation, though not, of course, comparable to that produced by Cocaine. Marked decrease in amount of abnormal secretion was invariably observed. In but one case was there any smarting or irritation, and that was the case of an hysterical, hyperesthetic girl. On the contrary, the patients almost invariably expressed themselves as experiencing a pleasant, cooling sensation, lasting for an hour or more. The staining of the iris and conjunctiva disappears in less than 24 hours, sometimes in 6. Care should be taken to confine the drops to the conjunctival sac, or, in the case of the ear, to the meatus, as the staining of the skin ought, of course, to be avoided. When this happens, however, the stains can be easily removed with alcohol ([273]). *These cases were treated with an aqueous solution of Pyoktanin* (*Blue*), 1 : 500."

The cases on which Dr. CONROY bases the above assertions were characterized as follows:

1.)—*Conjunctivitis catarrhalis* of both eyes, with chemosis, much burning and itching.—Alum and Boric Acid solutions gave no relief. Instillations of PYOKTANIN solution (1 : 500) gave *immediate relief* and effected a perfect *cure in 2 days*.

---

(273) *See* also MERCK'S BULLETIN, 1891; p. 69.

2.)—*Keratitis phlyctenularis.*—Atropine, Eserine, hot water, etc., had been used in vain for 3 weeks. PYOKTANIN solution (1 : 500) was now instilled. As a result, the patient could read and sew the next day, and the eye was *perfectly normal in 6 days.*

3.)—*Chronic Conjunctival Hyperemia*, with muco-purulent discharge, smarting and itching.—Numerous astringents and hot water had been used for 5 weeks without relief. After instilling the PYOKTANIN solution night and morning for a week, the *hyperemia was nearly gone;* there was *no discharge, smarting* or *itching.*

4.)—*Post-granular Conjunctivitis* in both eyes, of 9 years' standing, with muco-purulent discharge, and much burning and itching.—PYOKTANIN was applied daily for three weeks, with the result that the *conjunctiva became smoother*, the *discharge* practically *nil*, and the *eyes comfortable.*

5.)—*Keratitis punctata*, of 3 weeks' standing, with cloudy aqueous humor and circumcorneal injection.—PYOKTANIN solution was instilled night and morning. On the 3rd day, the *aqueous humor was less cloudy*, and the *circumcorneal injection less marked.*

6.)—*Ophthalmia neonatorum*, with greatly swollen lids, copious purulent discharge, and much chemosis.—The eyes were washed out every 2 hours with Boric Acid solution (gr. x : ʒi), which was followed each time by the instillation of 2 drops of the PYOKTANIN solution. The result was *complete recovery in 4 days.*

7–9.)—These were cases of simple *Acute Catarrhal Conjunctivitis. Prompt recovery* followed 2 or 3 instillations of the PYOKTANIN drops.

10.)—*Otitis media suppurativa chronica*, with perforation and copious offensive discharge.—The ear was inflated by Politzer's method, and 6 drops of the PYOKTANIN solution were instilled 3 times daily, after syringing. Under this treatment the *discharge entirely ceased in 6 days.* The perforation, however, did not heal until Boric Acid in powder was substituted for the PYOKTANIN ([274]).

---

* **Quinine** — [*See* "MERCK'S INDEX," p. 120.] — in **Whooping-cough.** — Prof. UNGAR ([275]), of Bonn, after 6 years' experience with QUININE in the treatment of Whooping-cough, is firmly convinced that this remedy is

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(274) For *other* reports on PYOKTANIN, *see September* Number, pp. 132, 133; and foot-note 253.

(275) *Wiener Medizinische Wochenschrift*, 1891 ; No. 18.

capable of *considerably moderating* the violence and *decidedly shortening* the duration of the affection in question,—yea, of even *breaking it up* in a few days. Lack of success heretofore is ascribable—in the author's opinion—to the administration of the QUININE in *too small doses*: children can bear comparatively much larger doses than adults. He administered it in doses of 1 decigramme [1½ grains] for every year of age up to four, *three times daily*; the dose of 4 decigrammes [6 grains] is also maintained for older children, and increased only in exceptional cases (vigorous children, great intensity of the affection) to 5 decigrammes [7½ grains]. In children under 2 years of age, comparatively larger doses are given, if necessary; for instance, to a vigorous child of 3 months, the QUININE may be administered even in 0.05 gramme [¾ grain] doses, although, as a rule, the dose should not exceed 1 centigramme [⅙ grain] for every month of age. Of course, besides age, the *constitution* of the child serves as the criterion for the determination of the dose of QUININE. *Too rapid diminution* in the dose, or *sudden discontinuance* of the administration, after the desired result has been *apparently* attained, is specially cautioned-against: the QUININE should be *continued in small doses* for a number of days after the paroxysms have ceased.

In young children, the QUININE—preferably in the form of the *Hydrochlorate*—is administered in aqueous *solution*, with the addition of a few drops of Hydrochloric Acid, and flavored with Raspberry Syrup. In older children, it may be given in *capsules*; but must then be followed by a draught of an *acidulated* solution.

For *subcutaneous* use, QUININE *di-Hydrochlorate* is recommended: it is readily soluble in water, its solutions keep very well, and it contains a large percentage of the base.

—Of course, QUININE must not be expected to *cure* Whooping-cough in a few days: nevertheless Prof. UNGAR asserts that the medicament, if administered in the manner indicated above, *will* at times influence the affection so favorably, as to really cause the paroxysms of cough to disappear within a few days, and, if continued in smaller doses, prevent a recurrence of the attack.

---

* **Salol** (PHENOL SALICYLATE; *Phenylic Ether of Salicylic Acid*)—[*See* "MERCK'S INDEX," p. 124.]—in **Yellow Fever.**—Dr. FERREIRA has published

his conclusions ([276]) drawn from a series of careful observations on the treatment of Yellow Fever by means of SALOL. The bacteriological researches of PAUL GIBIER have demonstrated that the *bacillary infection*, in Yellow Fever as well as in Cholera, is *far less important* than the *intoxication produced by the ptomaines* secreted by the microbes. Clinical observation has confirmed this fact, and led the present author to the following conclusions:

1.)—Carefully studied clinical facts seem to positively establish the correctness of the *intestinal* theory of Yellow Fever.

2.)—Intestinal antisepsis ought to constitute the basis of the treatment of this infectious fever, and be instituted from the very start.

3.)—SALOL precisely fulfills the indications in Yellow Fever,—being a gastro-intestinal antiseptic of the first rank.

4.)—The efficacy of SALOL has already been demonstrated by a number of observations. This medicament should be administered in *large doses*, —30 centigrammes [5 grains] every 2 hours, in wafers ([277]).

---

## COMPOUNDS NOT DESCRIBED THERAPEUTICALLY.

—[CONTINUED FROM JUNE NUMBER.]—

* **Benz-aldehyd**—[*See* "MERCK'S INDEX," p. 25.]—**chem. pure, *Merck.***—This preparation, made of especial purity by E. MERCK, for use in **Synthetical Processes** in chemical laboratories, is excellently adapted for these purposes; being *free from all the traces of foreign substances* mostly to be found in the various BENZ-ALDEHYDS of the market,—especially Chlorine compounds.

---

* **Mercury bi-Tartrate, Mercurous, pure,** occurs in small, lustrous cubes, which turn black under the influence of light or even of quite moderate warmth. This salt is but *slightly soluble* in water. It decomposes on boiling with water.

---

* **Mercury di-Iodo-salicylate,**—($C_6H_2I_2.OH.CO_2$) 2 Hg.—An amorphous, yellow powder, containing 20.5% of Mercury and 52% of Iodine. The Mercury in it can be traced only upon the addition of an acid. It is insoluble in water, alcohol, and ether.

---

(276) *Bulletin Général de Thérapeutique*, 1891; p. 198.

(277) For *other* recent reports on SALOL, *see* MERCK'S BULLETIN, 1890; p. 12.

* **Mercury Ethylo-sulphate.**—Small, white crystals, insoluble in acids. This compound is very prone to decomposition,—SULPHURIC ACID separating from it. Water decomposes it at once, a basic salt being precipitated.

* **Mercury Malate, basic.**—White amorphous powder, insoluble in water.

* **Mercury Thymate** (*Mercuro-Thymol*),—*not* LALLEMAND'S! ([278]), **pure,**—a basic salt prepared analogously to *Mercury Phenate* SCHADECK ([279])—[*See* "MERCK'S INDEX," p. 92.]—A yellowish or grayish white, amorphous powder, very slightly soluble in water.

# SELECTIONS.

## ACONITE AS AN ANTIDOTE TO INSECT-VENOM. ([280])

A correspondent from Durango says, that formerly about one half of the children in the city died from the sting of the scorpion, but now nearly all the lives are saved, if taken in time, by the use of a strong Tincture of ACONITE, of which five or six drops are put in a tumbler half full of water, and a teaspoonful given at frequent intervals.

## CARBOLIC ACID AS A LOCAL ANESTHETIC. ([280])

Dr. C. T. MEACHER suggests a five per cent solution of *Carbolic Acid* in water, as a safe and reliable anesthetic in dentistry. Four or five drops should be injected under the gum on each side of the tooth to be extracted. He says in most cases this is effective, and where inflammation exists around the root the action is most satisfactory. Dr. MEACHER thinks, that with moderate care there need be no fear of constitutional symptoms arising considering the small quantity used. A French dentist, who uses CARBOLIC ACID for this purpose, believes that it is equally as efficacious as, and less dangerous than, Cocaine.

## CHROMIC ACID, AN ANTIDOTE TO SNAKE-POISON. ([281])

Prof. KAUFMAN, of the VETERINARY COLLEGE at Atfort, has discovered that CHROMIC ACID, used hypodermatically, will destroy the poison of snakes and other venomous reptiles.

The treatment consists in the cautious employment of a one-per cent solution by the ordinary hypodermatic syringe; and, at the same time, where the bite happens to be at one of the extremities, the limb should be ligatured in order that the medicament may have an opportunity of being diffused throughout the tissues.

---

([278]) *See* MERCK'S BULLETIN, 1889; p. 78.

([279]) *See, also*, MERCK'S BULLETIN, 1889; p. 77.

([280]) *Medical Record*, 1891; 254.

([281]) *The Medical Summary*, 1891; p. 200.

## RESORCIN AS A DERMATIC.

Dr. A. RAVOGLI, of Cincinnati, says:

"I have found RESORCIN a valuable remedy in the treatment of Skin Diseases, either in children or in adults. In children those cases of Eczema which were called *Melitagra fluorescens*, where the surface is covered with yellow, greasy crusts, a salve with RESORCIN has in a few days removed the eruption. I usually prescribe in these cases:

| | |
|---|---|
| RESORCIN | ℥ ss. |
| Salicylic Acid | gr. vj. |
| Vaselin | ℥ j. |

*Rub on twice a day.*

"Not long ago I had several children living in the same neighborhood affected with *Impetigo contagiosa*. Several remedies had been prescribed by other physicians, but in spite of them the eruption was gaining larger proportions. I prescribed the same formula, raising the dose of RESORCIN to ℥ j in one ounce of Vaselin. After a few applications the crusts came off, showing the pustules dry, and in a few days nothing remained but a red discoloration in the place of the pustules.

"In cases of *Seborrhea capitis* and *Seborrhea nasi*, the best results were obtained from this remedy. It dried up the greasy contents of the glands, which appear as dark points. The inflammation of the sebaceous glands subsides, and the redness which accompanies the Seborrhea disappears.

"In cases of *Trichophyties*, the use of RESORCIN gave some improvement, but not fully satisfactory results.

"In cases of *Psoriasis*, RESORCIN did not prove so beneficial as Pyrogallol, although RESORCIN has the advantage of *not staining* so much."—*Lancet-Clinic.*

# GATHERED FORMULAS.

28 and 29.—**ANTIPRURITICS** in Urticaria.—[QUINQUAUD (282).]

—Lotion.—

| | | |
|---|---|---|
| BORIC ACID | 30 grammes | [ 1 ounce]. |
| Chloral Hydrate | 5 " | [75 grains]. |
| Distilled Water | 180 " | [ 6 fl. oz.]. |

*Externally!*

—Dusting-powder.—

| | | |
|---|---|---|
| SALICYLIC ACID | 5 grammes | [75 grains]. |
| Zinc Oxide | 15 " | [½ ounce]. |
| Powdered Starch | 30 " | [ 1 " ]. |

*Externally!*

[At the same time, Alkalis are administered *internally*, and if these fail to produce an effect, Sodium Arseniate.]

(282) *Deutsche Medicinische Wochenschrift*, 1891; No 32.

# STRAY ITEMS.

No. 7.

## STRYCHNINE IN SNAKE BITE.

Dr. MUELLER (‡), of Yackandandah, has written to Mr. M. RUSHTON, chemist, of Hobart, giving explicit directions for the use of this remedy. Dr. MUELLER says:

> "I am using a solution of 1 part STRYCHNINE NITRATE in 240 of Water with a little Glycerin. 20 minims of this are injected in the usual manner of an hypodermic injection. The frequency of repetition depends on the symptoms being more or less threatening,—say from ten to twenty minutes. When all have disappeared, and the STRYCHNINE shows its first independent action by slight muscular spasms, the injections must, as a matter of course, be discontinued, unless after a while the snake-poison again re-asserts itself.
>
> "The quantity of STRYCHNINE required in some cases has amounted to a grain or more within a few hours. Both poisons are thorougly antagonistic, and no hesitation need be felt in pushing-on the use of the drug to quantities that would be fatal in the absence of snake-poison. Out of about 100 cases treated after my method,—some of them at the point of death,—there has been but one failure, and this arose from the injections being discontinued after 1¼ grains had been injected. Any part of the body will, of course, do for the injections, though I am in the habit of making them in the neighbourhood of the bitten part, or on it."

(‡) *The Chemist and Druggist*, 1891; p. 643.

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***Agaricic (Laricic) Acid.**—Repeated confirmation of its value as an **Antisudorific.**—Dr. COMBEMALE has reported ([283]) on a series of observations on 17 patients suffering from night-sweats, treated with AGARICIC ACID,—described in two previous numbers of this journal ([284]).

The conclusion drawn from the results is that AGARICIC ACID exercises *with certainty* a restraining action upon the sweats of *Pulmonary Tuberculosis*, as well as upon those that accompany other forms of infection. The dose of two centigrammes [⅓ grain] *pro die* was found sufficient to produce the desired effect; but it is recommended to make certain by commencing with the full dose of four centigrammes [⅔ grain] *daily*. *No serious or inconvenient symptom was observed in any case where the integrity of the intestinal canal was not affected.* The antisudoral action commenced two hours after ingestion, and lasted for six hours; *no* indications of *accumulation* or of the system *becoming irresponsive* to the remedy were observed to follow repetitions of the dose for several days.

The irritant action of AGARICIC ACID renders it unsuitable for subcutaneous injection: Dr. COMBEMALE considers the *pilular* form the most convenient for administration.

---

***Ethyl Bromide,** (MONO-BROM-ETHANE; *Hydrobromic Ether*),—*again indorsed* as an Anesthetic in **Minor Surgery.**—T. KÖLLIKER ([285]) recently added his experience to those previously published on this subject ([286]).

Dr. K.'s DOSAGE is stated thus:—In *adults*, 10–15 grammes [2–3 fl. drs.]; in *children*, 5–10 grammes [1–2 fl. drs.]. As a rule, *complete anesthesia* was found to be produced in 50–60 *seconds*, and to last 1–3 minutes.

The author has never observed any disturbing symptoms during the administration of ETHYL BROMIDE: the anesthesia is at once followed by a

(283) *Bulletin Général de Thérapeutique*, 1891; p. 433.
(284) MERCK'S BULLETIN, 1889; p. 1;—1890; p. 77.
(285) *Centralblatt für Chirurgie*, 1891; No. 20.
(286) MERCK'S BULLETIN, 1888; p. 15;—1889; p. 23;—1890; p. 25;—1891; p. 1.

thorough revival of the patient. Dr. KÖLLIKER recommends ETHYL BROMIDE for such operations as:—Opening of *Abscesses*, Incisions for *Cellulitis* when not very extensive, *Tenotomy*, *Thermo-cautery*, Extraction of *Sequestræ*, Removal of small *Tumors*, Scraping of *Tuberculous Glands*, of small *Tuberculous Deposits* on Bone, and of small patches of *Lupus*.

—The use of a *commercial* ETHYL BROMIDE is to be strongly cautioned-against: only a *strictly chemically pure* preparation should be used.—(*See the previous articles* in this journal on ETHYL BROMIDE, as indicated by foot-note on preceding page.)

---

***Hydrastis canadensis,** (*Golden Seal*),—**Fluid Extract of Root,**—as an **Antihidrotic in Phthisis.**—Dr. CRUSE ([287]) most warmly recommends HYDRASTIS in the above character. This use of it was suggested by the fact that, in 2 cases of Phthisis in which FLUID EXTRACT HYDRASTIS was prescribed for the arrest of *hemoptysis* which had occurred. the customary *night-sweats did not appear*. In a third case in which the usual Antihidrotics—Atropine, Agaricin, Ergot, etc.—were efficacious *only at the outset*, and soon had but a partial, and finally no effect on the night-sweats, an intercurrent slight hemoptysis called for the use of HYDRASTIS. As a result of this medication, not only was the hemorrhage arrested, but *the sweats failed to appear*. Subsequently 30 drops of the FLUID EXTRACT HYDRASTIS were administered every evening as an *Antihidrotic*, and always with perfect success: even three weeks after the HYDRASTIS was discontinued, there was no return of the night-sweats.

In numerous other patients, the FLUID EXTRACT HYDRASTIS had the same *prompt* antihidrotic effect.

---

***Mercury Benzoate** by **Parenchymatous Injection,**—as an **Abortive of Buboes.**—Dr. ED. WELANDER reports ([288]) the following. Half a gramme [8 minims] of a 1%-solution of MERCURY BENZOATE, to which ½% of Sodium Chloride was added, was injected into the Bubo at one or two places; a compressive bandage was then applied, and

(287) *Berliner Klinische Wochenschrift*, 1891; No. 22.

(288) *Archiv für Dermatologie und Syphilis*, 1891; No. 1.

changed 2–3 times a day. If the skin was inflamed, it was painted with a solution of Ichthyol (1 : 2-3). The patients were kept as quiet as possible.

The pain produced by the injections was quite inconsiderable; in some of the cases, a few drops of pus exuded from the puncture, while the Bubo was *quickly absorbed without leaving a scar* or any other pathological condition of the skin.

In the remaining cases, in which *fluctuation* (purulent infiltration) *had developed* and was daily increasing, the results from the injection of MERCURY BENZOATE were nevertheless very favorable, and, at all events, render this treatment well worthy of trial in similar cases ([289]).

---

**Opiates** in **Chronic Constipation.**—Dr. A. E. NEVINS ([290]) reports on an exhaustive series of observations on **Dover's Powder** (*Ipecac-and-Opium Powder*) in Chronic Constipation. In all cases of the latter condition, there is considerable *chronic irritation* and *subacute inflammation* of the cæcum and colon, as well as of the surrounding cellular tissue. This condition not infrequently becomes *acute*, when the case is usually diagnosed as Typhlitis. In consequence of this acute inflammation, peristalsis is arrested, reflexly. If now, in such cases, a purgative be administered, peristaltic movements will be induced, the irritation increased, and, after the evacuation of the bowels,—which rarely is complete,—the torpidity of the intestines will be greater than it was before the cathartic was administered.

The above-named author has *always* obtained *good* results in *such* cases of Chronic Constipation, from the use of DOVER'S POWDER 0.8 gramme [12 grains], of evenings—*in combination with* TURPENTINE-OIL FOMENTATIONS to the abdomen: *complete defecation* was always effected. By subsequent careful regulation of diet and the entire avoidance of cathartics, the constipation was almost always completely removed.

These results are explained as follows:

The OPIUM quiets the irritable gut for a time, during which it regains its normal tone; while the IPECAC, by stimulating the intestinal secretion, aids, in great measure, in completing the evacuation.

---

(289) *See*, also, MERCK'S BULLETIN, 1890; p. 38.

(290) *Deutsche Medizinal-Zeitung*, 1891; p. 621.

***Orexin** (PHENYL-DI-HYDRO-QUIN-AZOLINE HYDROCHLORATE),—*confirmed* as an **Appetizer** and **Stomachic** in **"Secondary" Symptomatic Anorexia.**—The encouraging experiences of Prof. PENZOLDT with OREXIN, as reported in a previous volume of this journal ([291]), have received considerable indorsement at the hands of many investigators since then.

Indeed, it appears that a satisfactory measure of success has attended the clinical experiments with OREXIN in the hands of all those who have conformed to the limitations within which the use of this drug should be confined, as laid down by Prof. PENZOLDT, the originator of the therapeutic use of OREXIN.

The gist of those limitations shall, for the sake of better understanding, be here repeated in his own words, as previously printed in this journal. Prof. P. positively *recommends the use of* OREXIN in cases of ANOREXIA *not due to, nor complicated with*, any GASTRIC DISEASE proper. He describes them as—

> "ANOREXIA (Lack of Appetite), where this condition was a *secondary symptom;*—a symptom reacting, however, unfavorably on the primary ailment."

By way of illustration, he specifies some of the particular instances in which he had his remarkably good results from OREXIN,—as follows:

> "*After Major Operations*, where final success sometimes depends altogether on the patient's taking and digesting food; in *Pulmonary Tuberculosis*, where the Lack of Appetite so often renders nugatory all efforts at treatment; in *Chlorosis*, *Pleuritic Exudations*, *Pulmonary Emphysema*, *Heart Affections;* in the various *Anemic conditions*, and in *Defective Nutrition* generally."

He still further accentuates *the secondary character of the Anorexy* in the cases exemplified in his report, by the following elucidation:

> "*The necessity* in which the physician is sometimes placed, *of successfully combating the symptoms of Anorexy*, is indubitable. The frequent occurrence of a *Causal Indication*, as it were, for the removal of this phenomenon, which prevents all improvement of the nutrition, is just as evident."

*He just as clearly states the principal* **Counter-indication**, in the following words:

> "*Cases of* **Gastric Disease proper** *were so far but rarely touched*, from caution as to the irritating—though by no means escharotic—action of the medicament on the mucous membrane."

—As to **Dosage** and **Administration**, recent communications from Prof. PENZOLDT state that *the most eligible average dose* of this substance is usually of **0.3 gramme** [**4 ½ grains**] *twice daily.*—Renewed stress is placed upon the necessity of *accompanying each dose* by a voluminous draught of some liquid (as, for instance, a large cup of beef-tea, milk, or at least warm water).

---

(291) MERCK'S BULLETIN, 1890; pp. 33 and 45.

—With a few restrictions in matters of detail, all the characterizations of OREXIN, as quoted above from Prof. PENZOLDT'S various reports, *are confirmed* by the following *recent* communications *from other observers* (culled from a large number of similar ones that have been received ):

Dr. MAX MATTHES ([292]) gives an account of 27 cases of *Anorexia* in out-patients treated with OREXIN at the POLYCLINIC OF THE MEDICAL UNIVERSITY at Jena. Before administering the OREXIN, in most of the cases, a physiologically selected breakfast was given and the contents of the stomach subsequently examined. These examinations were then repeated during the period of the OREXIN medication, as often as possible. The remedy was administered in doses of 0.25 gramme [3¾ grains], *twice daily*,—in its original powder-form, inclosed *in wafers*. It was always given *during meals*, with a copious draught of liquid. *No disagreeable* by-effects were ever noticed. *The psychic factor* was carefully excluded,—none of the patients knowing why he was taking the powders.

The author's 27 cases show that the success or failure of the OREXIN treatment depends essentially on the nature of the disease causative of the anorexia. In agreement with Prof. PENZOLDT'S original statement ([293]), it was shown that OREXIN is *of undoubted value* in the therapy of *Incipient Phthisis* and in certain *Anemic conditions*. Of the 27 cases in question, OREXIN was *successful* in :

| | |
|---|---|
| *Incipient Phthisis* | 5 cases. |
| *Anemia* and *Chlorosis* | 4 " |
| *Neurasthenia with Anemia* | 4 " |
| *Chronic Bronchitis* | 2 " |
| *Cardiac Disease* | 1 case. |
| Total :— | 16 cases. |

It was *without effect* in :

| | |
|---|---|
| *Phthisis florida* | 3 cases. |
| *Chronic Gastric Catarrh with Gastro-mycoderatrophia and Dilatation* | 3 " |
| *Normal Digestion with sufficient Appetite* | 2 " |
| *Neurasthenia with Hyperacidity* | 1 case. |
| *Phthisis* (much run down from KOCH'S treatment) | 1 " |
| *Severe Psychosis* | 1 " |
| Total :— | 11 cases. |

(292) *Münchener Medizinische Wochenschrift*, 1891; No. 15.

(293) MERCK'S BULLETIN, 1890; p. 33.

In cases of *normal* or *super-normal secretion* of Hydrochloric Acid, OREXIN neither increased it, nor brought it on any earlier.

According to Dr. MATTHES'S experience, therefore, OREXIN appears to be indicated particularly in those cases of Anorexia in which *no destructive change in the gastric mucous membrane* has taken place, in those in which there is *no advanced pernicious constitutional disease*, and in those in which there is *no pre-existing hyperacidity* due to Hydrochloric Acid. Thus it is indicated (as partly stated above) in the Anorexia of *Chlorosis*, *Anemia*, *Neurasthenic Dyspepsia* without hyperacidity, *Incipient Phthisis*, *Chronic Bronchitis*, *Cardiac Affections*, etc.

—Dr. A. KRONFELD, Assistant at Prof. VON SCHRÖTER'S MEDICAL CLINIC, also reports (294) on his experience with OREXIN, in 176 cases. He first gives a summary of all the publications on OREXIN, up to the date of his report. These show that the remedy had been used in 210 cases of the most widely different diseases, and had a *good effect* in 120 of them. Of his own 176 cases, *favorable results* were obtained in 101. In *healthy* individuals, the action of OREXIN was less pronounced than PENZOLDT'S statements justified expecting. The medicament rendered *good service* in *Tuberculous patients not yet much run down* in health, while, like other stomachics, it failed in *Advanced Phthisis*. In *Chronic Gastric Catarrhs* other than Congestive and those of topers, *good results* were obtained. In several cases of *Anemia*, the action of OREXIN was very *striking* and *valuable*. In *Marasmus*, the results were entirely *unfavorable*; whereas in a case of *Carcinoma ventriculi*, the appetite was *strikingly improved*.

—The investigations which the author made relative to the appearance of *free* Hydrochloric Acid in the gastric juice after the administration of OREXIN, are of value in the explanation of the action of this remedy. They prove that, *in suitable cases*, OREXIN *hastens* the appearance of free Hydrochloric Acid.

The method of procuring the gastric juice in these cases consisted in swallowing small perforated silver capsules, tied to a silk thread, and containing Congo-paper (to determine the reaction) and Bruns's cotton (to absorb the gastric juice). After 3 capsules had been retained in the stomach 5 minutes, they were withdrawn by means of the silk thread; and by pressing out the cotton, 8–10 drops of gastric juice were obtained.

---

(294) *Wiener Klinische Wochenschrift*, 1891; Nos. 2 and 3.

The author considers an *increase in the motor power of the stomach* probable, without, however adducing positive proofs thereof—the SIEVERS-EWALD Salol test having given negative results. From his experience, he concludes that OREXIN is a **valuable Stomachic,** indicated (as partly stated above) after *exhausting* operations and diseases, in *Incipient Tuberculosis*, in *Chronic Gastric Catarrh* (excepting Congestive, and that of topers), in *Anemia*, and in *Inanition.* On the other hand, he regards it as *counter-indicated* in *Ulcus ventriculi* and all other pathologic conditions of the stomach in which the latter should be let alone.

According to Dr. KRONFELD, OREXIN is best taken in the *morning*, in doses of at least 0.3 gramme [5 grains], in *powder* form, inclosed *in wafers*; it should be *preceded* by a draught of milk or of soup ([295]).

—Dr. JOHN GORDON, of Aberdeen, reports ([296]) on the use of OREXIN as an Appetizer and Stomachic **in Children.**

The drug was given in small doses and simply dissolved in water. Little or no objection was offered by the children to its administration. Most of the cases selected were suffering from some form of *Tubercular disease* with anorexia (loss of appetite) as a marked feature. The patients too being children who had no idea for what purpose the drug was given, there was little or no chance that its probable effect could be anticipated. A number of the patients who had been inmates for some time were under observation in the wards of the SICK CHILDREN'S HOSPITAL, and of these, careful notes were taken by the house surgeon, Dr. RICHARD EDEN.

The following five cases are typical of about ten others in which the drug was exhibited:

1.)—An extremely anemic and wasted boy, aged three years, who had on admission an *Umbilical Fistula*, which had discharged fecal matter since birth. He vomited frequently after meals, and never showed any sign of appetite. An eighth of a grain [0.0075 gramme] OREXIN, three times daily, dissolved in water, was ordered to be given before meals. After 2 days, a desire for food was expressed, signs of improved nutrition appeared in the color of the face, and the pulse was regular and stronger. Improvement continued for 6 days more, when the OREXIN was stopped,—the appetite being good.

2.)—J. T., aged 8, suffered from *Enlarged and Suppurating Glands* of the neck, with discharge of pus into the mouth. Tongue slightly furred, constipation and loss of appetite marked. OREXIN, in quarter-grain [0.015 gramme] doses, was ordered three times daily, in water, before food. After 4 days the appetite was *much improved.* OREX-

(295) For *other reports* on OREXIN, *see*, also: MERCK'S BULLETIN, 1890; p. 105.

(296) *The Lancet*, 1891; p. 68.

IN continued for 11 days more, when the appetite was *completely restored*, and the condition of the patient was improving steadily.

3.)—A wasted, anemic boy, aged eleven years, suffering from *Hip-joint Disease* with extensive waxy disease, hectic temperature, and feeble pulse. Tongue pale and flabby; no desire for food. OREXIN in quarter-grain [0.015 gramme] doses was ordered three times daily in water, before food. Six days later, appetite improved; after 20 days more, appetite *very good*, general condition greatly improved, patient apparently gaining flesh.

4.)—A thin, strumous child, aged two years, with *Mastoid Abscess* and *Otorrhea*, fretful and peevish, and with no desire for food. OREXIN in quarter-grain [0.015 gramme] doses ordered. Appetite *soon improved*, and patient seemed more happy. There is *no vomiting* or diarrhea. This case is still under observation.

5.)—A rickety boy, aged two years, with *Enlarged Cervical Glands;* furred tongue, bowels constipated, marked loss of appetite. OREXIN in one-sixth-grain [0.01 gramme] doses was ordered three times daily in water, before meals. After 8 days, there was *marked increase of appetite;* child was quite anxious for food; bowels more regular, and tongue cleaner. Improvement steadily maintained 4 days longer, when the OREXIN was stopped.

—It would thus appear that OREXIN is a *valuable stimulant* in Anorexia concurrent with *Tubercular disease.* The power of stimulating absorption of the products of digestion claimed for it, seems to be merited: for under its use, the tongue became less furred; and the constipation was relieved.

OREXIN may be given in *wafers*, in *pills* made with any of the ordinary excipients, or between two thin slices of buttered bread.

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* **Orexin Powder,**—the most desirable Form for the Administration of Orexin.—Occasional *inefficacy* of OREXIN medication having been traced, in some instances, to *a lack of ready solubility* of the COMPRESSED TABLETS in which it was at first, for physicians' and druggists' convenience, placed upon this market, this form of the medicament has now been abandoned for that of POWDER, which is administered, to avoid its acrid taste, *in some form of envelope:* as, CAPSULES or WAFERS.

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* **Pulsatilla** (*Anemone pulsatilla*),—**Tincture of Herb,** as an Anodyne and Emmenagogue in **Ovarian Neuralgia** and **Dysmenorrhea.**—Dr. BOVET ([297]) considers the TINCTURE prepared with equal parts (by weight) of the herb *gathered in June*, and 90% Alcohol, the best

(297) *Deutsche Medizinal-Zeitung*, 1891; p. 638.

preparation of PULSATILLA,—*more efficacious* than the glucoside ANEMONIN ([298]) which it contains.

In Dysmenorrhea, he recommends 4 spoonfuls of wine, each containing 10 drops of the PULSATILLA TINCTURE, to be taken four days prior to the expected menstruation: if the flow appears, the medicament is discontinued for 3 or 4 days, after which it is again administered for 3 or 4 days in the above-mentioned dose. Often a complete cure is effected by this treatment in two months.—(If *Chlorosis* is associated with the Dysmenorrhea, 0.05 gramme [¾ grain] of Manganese Chlorate, in addition to the PULSATILLA TINCTURE, is given with each spoonful of wine.)

In Ovarian Neuralgia dependent upon chronic inflammation of the uterus or of the tissues in its vicinity, the PULSATILLA wine, as above, is administered daily, in moderate doses, until the pain is dispelled. Complications were never observed in the course of this treatment.

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***Quinine Sulphate,**—in sufficiently large doses,—a **Cardiac Stimulant.**—Dr. F. E. HARE ([299]), Resident Medical Officer at BRISBANE HOSPITAL, Queensland, has made a large number of observations on QUININE with special reference to its action on the heart, and has come to the conclusion that QUININE, when given in *sufficiently large* doses, is an *admirable* Cardiac Stimulant,—particularly in Typhoid Fever. In the latter affection, he considers it far *superior* to any other drug.

It was observed that, when QUININE SULPHATE had been given as an Antipyretic in doses of 30–40 grains [2–2.7 grammes], the pulse-rate, although it rose with the returning temperature, almost always *failed to attain its previous frequency;* that sometimes it *remained slower*, in spite of the temperature having gained an even greater elevation; and that, not uncommonly, when the drug failed altogether as an Antipyretic, the *pulse-rate was markedly affected.*

These observations seemed to point to an *action on the heart independent of the antipyresis.* Experiments were accordingly made to discover if this effect could be gained from doses too small to have any appreciable in-

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(298) For Physiological and Therapeutical data on "ANEMONIN," *see* MERCK'S BULLETIN, 1889; p. 64; —1890; p. 78.

(299) *The Lancet*, 1891; p. 930.

fluence on the temperature; for if so, the independence of its action on the circulation would be established. The anticipation was *fully realized.*

The effect on the pulse is not limited to a reduction in frequency; the beats become stronger, more sustained, and more distinct, and the change was especially striking in cases where the pulse had been inclined to "run." The explanation appeared to be that the drug acted as a powerful tonic or stimulant to the heart.

It was consequently determined to treat systematically with QUININE every case of Typhoid Fever that commenced to exhibit signs of cardiac failure, and the following rule was laid down:—3-5-7 grains [0.2-0.3-0.45 gramme] of QUININE to be given every 3 hours whenever the pulse rate commenced to range *above* 120.

The analysis of the 18 fatal cases out of a total number of 306 treated, showed that *no patient died of cardiac failure*, which, under ordinary circumstances, is the most frequent cause of death.

—The author considers the following points in connection with the action of QUININE on the heart worth noting:

1.)—The slowing of the pulse-rate is *tardy* in appearing,—usually 24 hours elapsing before its effect is distinctly perceptible.

2.)—The effect, when obtained, is somewhat *permanent*, so that if the drug be withheld the *pulse does not attain its previous rate for two or three days.* This is in marked contrast to its action on the temperature, which is never prolonged beyond thirty-six hours by even the largest antipyretic dose.

3.)—Its action is not limited to Typhoid Fever: similar results were obtained also in the last stages of *Phthisis*, in *Croupous* and *Broncho-Pneumonia*, and in *Surgical cases with hectic fever.* By it alone many lives might be saved,—Dr. H. maintains.

---

* **Sodium Thio-sulphate** (formerly called "*Hypo-sulphite*," or "*Sub-sulphite*") lauded as efficacious in **Flatulent Dyspepsia.**—Dr. CADOGAN-MASTERMANN reports ([300]) on the use of SODIUM THIO-SULPHATE in Flatulent Dyspepsia, with excessive Tympanites. The results obtained from the internal administration of 25 centigrammes [3¾ grains], twice daily,—two hours after meals,—are designated as *excellent:* the gastralgia, tympanites, and other symptoms, disappeared *rapidly.*

(300) *The Provincial Medical Journal*, 1891 ; April.

The use of *very large doses*—such as 2–3 grammes [30–45 grains], as recommended by GARROD AND NEALE—of SODIUM THIO-SULPHATE is to be avoided; because, in such doses, this medicament not only arrests the abnormal gastro-intestinal fermentation, but also the digestion itself.

# SELECTIONS.

## ICHTHYOL IN ERYSIPELAS. (301)

Dr. C. W. ALLEN, of New York, recommends the following treatment of Erysipelas:

Internally, such symptomatic treatment is followed as the nature of the case seems to require. Locally, he advises painting the patch and surrounding margin of healthy skin thickly with ICHTHYOL in Collodion,— ʒ j–ʒ ij : ℥ j. If the scalp is the region affected, a watery solution or ointment of ICHTHYOL can be employed. In every case an attempt should be made to arrest the spread either by a band of adhesive plaster or by scarification, or both, the latter to follow the former, in case the disease spreads beyond the adhesive strips. In Erysipelas of the face which has not yet reached the forehead, or at least its upper part, a band should be applied tightly about the forehead and just above the ears, the hair being cut if necessary to secure firm pressure. The chances of arresting the process here should be at least equal to those of checking the spread upon an extremity, for we have a hard bony base over which to make our compression. If the boundary is passed, then the scalp should at once be shaved and another band applied higher up. The hair should be cut in any case in which the scalp is invaded or threatened. Then the same application of ICHTHYOL in Collodion can be made, as to the face or other part. If there be much tension, swelling, heat, and discomfort (which is not apt to be the case under Collodion), any oily substance can be applied over it.

## INDIGO AS AN EMMENAGOGUE. (302)

Dr. J. L. JONES, of Bells, said his attention was first directed to this drug as an emmenagogue, July, 1887, from an essay published in the *Medical and Surgical Reporter* of Philadelphia, by Dr. S. L. GOUNT, of Lafayette, Ind. Acting on the suggestions offered by Dr. GOUNT, he had used it in many and various cases. His first case was a young lady, aged twenty, who had not menstruated in five months. He had been treating her for three months with the usual remedies without any effect, so he made up his mind to give INDIGO a trial, which he did. He ordered INDIGO ℥ ij, Bismuth Sub-nitrate ℥ ss, well mixed. Of this the patient took one-half teaspoonful in one-third of a glass of water, three times daily, for nearly four weeks, when one day he was sent for in great haste. On his arrival he found the patient on the bed, and comfortable. He was then

(301) *Medical Record*, 1891; p. 255.

(302) *Medical Record*, 1891; p. 581.

told by the mother that her daughter, while walking in the garden, without pain or warning of any kind, began to flow. The gush was followed by a gentle flow, which lasted only for a short time. In five days she was well, and has not suffered from Amenorrhea since. Dr. JONES has since used INDIGO in thirteen cases with but one failure, and this case proved to be pregnant. During the administration of the drug, the os uteri becomes soft and patulous, admitting the end of the index finger. There is often a serous discharge from the vagina. The urine becomes brownish-green in color and its odor is offensive. The stools are watery and offensive.

# GATHERED FORMULAS.

## 29.—**CAFFEINE AND PHENACETIN** in Migraine.—([303])

—Powders.—

| | | |
|---|---|---|
| CAFFEINE CITRATE | 4.5 grammes | [75 grains]. |
| PHENACETIN | 0.5 gramme | [ 7½ " ]. |
| Milk-sugar | 1.0 " | [15 " ]. |

Divide into 5 powders!—*One every 2 hours until relieved.*

## 30.—**SALOL** in Chronic Fermentative Diarrhea.—[M. EICHLER ([304])].

—Mixture.—

| | | |
|---|---|---|
| SALOL | 3 grammes | [45 grains]. |
| Castor Oil | 15 " | [½ fl. oz.]. |
| Rhubarb Syrup | 30 " | [1½ " " ]. |
| Distilled Cinnamon Water | 120 " | [4 " " ]. |
| Powdered Gum Arabic | *a sufficient quantity.* | |

Make into an Emulsion!—*Tablespoonful every hour until the bowels move.*

## 31.—**STRYCHNINE AND PHOSPHORIC ACID** as Cardiac Tonics.—([305])

—Solution.—

| | | |
|---|---|---|
| Strychnine Sulphate | 0.06 gramme | [ 1 grain]. |
| Dilute Phosphoric Acid | 30 grammes | [ 1 fl. oz.]. |

*Eight drops, 3 times daily,—increasing the dose every day by 1 drop until a slight stiffness in the muscles is experienced.*

(303) *Therapeutische Monatshefte*, 1891; p. 168.

(304) *Semaine Médicale*, 1891; No. 32.

(305) *Deutsche Medicinische Wochenschrift*, 1891; p. 631.

# STRAY ITEMS.

No. 8.

## THE SULPH-ANILIC-ACID TEST FOR TYPHOID FEVER. (§)

This test, which has been known as "EHRLICH'S TEST" for a number of years, has till recently been regarded by many rather as a medical curiosity than as of diagnostic value. Dr. C. E. SIMON, of the JOHN HOPKINS HOSPITAL, has recently shown that by carefully following the precise directions for its use, valuable information may be derived. The test consists of two solutions: (1) A saturated solution of SULPH-ANILIC Acid in five-per-cent Hydrochloric Acid, and (2) a five-per-cent solution of Sodium Nitrate. These are to be mixed, just before use, in the proportion of 40 cc. of (1) to 1 cc. of (2). If this mixture be added to urine from a case of Typhoid Fever, the further addition of Ammonia will produce a play of colors varying from an eosine-rose to a deep garnet-red. The best method of applying the test is to take a few centimetres of urine in a test-tube, adding an equal quantity of the SULPH-ANILIC Acid mixture, and shaking thoroughly; 1 cc. of Ammonia is then run carefully down the side of the tube. At the junction of the two liquids there will be observed a ring of the characteristic color, which is produced in scarcely any other disease than Typhoid Fever. Dr. SIMON'S conclusions may be thus summarized: (1) The reaction may be obtained in Typhoid Fever from the fifth to the twenty-second day of the disease. (2) Its absence from the fifth to the ninth day indicates a very mild attack, save in children, though this rule is not an absolute one. (3) As it occurs previous to the appearance of the rash, it is a very useful aid in the diagnosis of Typhoid Fever.

(§) *The American Practitioner and News*, 1891; p. 60.

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TO

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*P. S.*—The next number of MERCK'S BULLETIN will be mailed about Jan. 15th, 1892.

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**Benzene, anthracic,** —in Whooping-cough. — After several years' experience with the use of BENZENE (Coal-tar Benzol) in Whooping-cough, Dr. W. ROBERTSON, of Glasgow, asserts ([306]) that it effects better results than all the other remedies recognized as useful in this affection, and that it is of equal benefit in the adult and child. In one particular case the attacks were reduced from twenty or thirty in the night to two or three; and, while evidences of Bronchitis were present when the treatment was begun, at the date of the report,—10 days later,—the chest was clear, and the child able to be taken out of doors.

The author has administered BENZENE in cases of Whooping-cough, where convulsions and other complications were fast reducing the chances of recovery, and has secured perfect success in a few days. In *adults*,—where Pertussis often assumes serious aspects,—BENZENE proved equally efficacious.

Two minims in mucilage are sufficient for a child six months old; and five minims in mucilage on sugar, or in capsule, for adults. As soon as the BENZENE odor is observed in the breath of the patient, then all anxiety as to the result may be dropped—according to Dr. ROBERTSON.

---

**Camphorated Naphthol,** by Interstitial Injection,—in Tuberculous Adenitis.—Dr. REBOUL of Marseilles has recently published ([307]) a further communication on his treatment of Tuberculous Glands by means of interstitial injections of CAMPHORATED NAPHTHOL.

Since his first communication to the Paris SOCIÉTÉ DE CHIRURGIE, in 1890,—which was based on 27 cases,—he has had 5 more, which added to 15 unpublished cases reported in an inaugural thesis by DAVID, make a total of 47 cases. In 43 of these the cervical, in 1 the axillary, and in 3 the inguinal glands were affected. In 18 cases the glands were hard, in 24 they were softened, and in 5 they were ulcerated. Of the 47 cases 28 were cured and 19 improved. Of the 32 cases observed by REBOUL himself, 19 were cured and 13 improved. The cure, however, was not complete, that is to say, the tuberculous adenitis did not entirely disappear in all cases, but

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(306) *The Lancet*, 1891; No. 3545.

(307) Supplement to the *British Medical Journal*, 1891; p. 125.

there could be no doubt as to the remarkable improvement and the favorable modification of the morbid process. The treatment is absolutely *harmless*, and seems to act beneficially both on the local and on the general condition.

Dr. REBOUL has treated in the same way 3 cases of *Tuberculosis of the testis*. In one of them he injected some drops of CAMPHORATED NAPHTHOL through a fistula; in the two others the substance was injected interstitially into the tuberculous nodules on the epididymis and testis. The result was very marked, induration taking place with progressive diminution of the neoplastic formation, and closure of the fistulæ. More recently M. REBOUL has treated two further cases in the same way, injecting four to five drops every eight or ten days. Whilst admitting that these cases are too few to warrant definitive conclusions being drawn therefrom, he thinks himself justified in affirming that, as the result of the treatment, the evolution of the disease was checked, the tuberculous nodules diminished in size, and the diseased parts became manifestly hardened,—showing that a process of sclerosis had begun which it might be hoped would lead to complete cure.

---

**Chloroform** as an **Antiseptic and Disinfectant.** — Dr. M. KIRCHNER ([308]) has made a large series of experiments with CHLOROFORM for the purpose of definitely determining its power as an Antiseptic and Disinfectant. He considers it very valuable in the latter capacity, and especially adapted for the preservation of albuminoid substances. **Chloroform Water** (℥ III : ʒ I) is considered the most eligible form in which to employ CHLOROFORM as an Antiseptic, and is recommended for the following purposes:

1.)—For the *sterilization of blood-serum* (with the addition of CHLOROFORM *in excess*), because it can easily be removed from the latter, does not materially alter its composition and coagulability, nor influence its utility as a nutritive soil for bacteriologic cultures.

2.)—*To disinfect clothing*, *suspicious milk* and *water*, *milk-pails*, etc. (by adding CHLOROFORM up to the point of saturation, that is, ½%),—particularly in Cholera and Typhoid Fever, on account of its *specially* energetic influence on these diseases, and of its volatility.

---

(308) *Zeitschrift für Hygiene*, Vol. VIII.

3.)—*To improve the condition of suspicious drinking-water* for troops while marching and when in camp, when thorough boiling is impracticable,—3.75 gramme (!) [¾ fl. dr. (!)] per head, daily, of undiluted CHLOROFORM being added to the suspected water.

4.)—In *bacterial intestinal diseases*—particularly Summer Diarrhea—the CHLOROFORM WATER, as described before, is used for enemas; it also appears indicated in the treatment of *wounds*, on account of its action on the Staphylococcus aureus.

—STEPP has recently warmly recommended CHLOROFORM WATER INTERNALLY in *Typhoid Fever* and in *Pneumonia*.

---

**Cypress Oil** in **Whooping-cough.**—Dr. J. M. BRAVO has published ([309]) his experience with CYPRESS OIL—an essential oil obtained, by distillation, from the needles of the Cypress-tree (*Cupressus sempervirens*)—in the treatment of Pertussis. His method of employing the drug is to drop some of the OIL on the little patient's clothing near the collar, or, at night, on the pillow of the child's bed, so that the air which the patient breathes is constantly impregnated with the volatile medicament.

The author sums up his experience in the following conclusions:

1.)—CYPRESS OIL is the *most promptly successful* remedy for Whooping-cough.

2.)—It is perfectly free from the disadvantages of many of the other known remedies—such as Belladonna, various balsams, etc.

3.)—It is very *easy of application*, and has a strong but not disagreeable odor to which the children do not object, and which, after a short time they even enjoy.

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**Huckleberries** (*Fructus Vaccinii myrtilli*),—as a **Styptic.**—Dr. WINTERNITZ ([310]) recommends the above in the form of a *concentrated decoction*. He administers it in doses of 1–3 cupfuls a day, and claims to have observed good results even in cases where other styptics disappointed. It also proved serviceable in Phthisical Diarrhea, and as an *injection* in Gonorrhea, both acute and chronic.

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(309) *Revista Medica de Chile*, 1891; No. 7.

(310) *Wiener Medizinische Wochenschrift*, 1891; p. 1376.

**Hydrogen per-Oxide** in Eye Disease.—Dr. S. S. Golovin, of Kütaïs, relates ([311]) his experience with Hydrogen per-Oxide in Ophthalmic practice. The following is a summary of his conclusions:

1.)—In *healthy* eyes Hydrogen per-Oxide causes only trifling smarting, and transient conjunctival congestion; in *diseased* eyes—especially when deep corneal ulcers are present—the medicament may give rise to a more or less intense burning sensation, which, however, quickly disappears of itself.

2.)—Solutions of Hydrogen per-Oxide are somewhat unstable; but decomposition can easily be prevented by the addition of a small quantity of Ether, and by preserving in dark bottles in a dark place.

3.)—For lotions or irrigations, a 3% solution may be employed; for collyria, 10–15% solutions.

4.)—The best results from Hydrogen per-Oxide are obtained in *Corneal Affections*: simple ulcers rapidly disappear, without being complicated by purulent infiltrations; suppurating ulcers speedily become cleaner and healthier; infiltrations undergo absorption; and healing takes place without perforation of the cornea occurring. In Hypopyon-keratitis, Hydrogen per-Oxide is also valuable: if the instillations be made regularly and thoroughly, even cases in which operative interference would be necessary are found to yield to the remedy.

5.)—Hydrogen per-Oxide is serviceable also in Conjunctival Affections,—particularly Phlyctenular Conjunctivitis, and Acute Gonorrheal Ophthalmia (the instillations being repeated not less than 4–5 times a day, or even every 2 hours). In simple acute and chronic *Diffuse Conjunctival Catarrhs*, and in *Trachomatous* or *Follicular Conjunctivitis*, Hydrogen per-Oxide seems to be *useless*.

---

**Iodine Tincture**,—topically,—in **Infective Corneal Ulcers**, is warmly recommended by Dr. Chilret ([312]). It is to be applied once or twice a day. In the author's opinion, it is *superior to the mercurial and other caustics* by virtue of its greater *penetrating power* and because it does not form insoluble salts with the albuminoid constituents of the tissues; and *preferable to the actual cautery*—which is considered too destructive to the

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([311]) "Proceedings of the Caucasian Medical Society," May 14th, 1891; p. 27.

([312]) *Recherches d'Ophthalmologie*, 1891; Sept.

cornea. Dr. CHILRET believes that anterior staphyloma—so frequently a sequel of ulceration of the cornea—can be prevented by treatment with IODINE TINCTURE, and that the cicatrices are *less opaque* than those resulting from other methods.

---

**Iodoform** as a **Prophylactic of Ophthalmia neonatorum.**—Dr. VALUDE has published ([313]) the results he obtained in the clinics of Dr. BAR and Prof. TARNIER, in Paris, from the systematic employment of finely powdered IODOFORM as an application to the eyes of new-born babes. These results compare favorably with those obtained under similar conditions in the same wards by Dr. CRÉDÉ from Silver Nitrate. The author recommends the eyelids to be carefully cleansed, and powdered IODOFORM dusted into the conjunctival sac as soon as the child is born—before the cord has been severed. As an advantage of this treatment it is claimed that the powder, or some of it at least, *remains* in the folds of the conjunctiva *for a considerable time* after the application; whereas solutions of any kind immediately drain away.

—Dr. VALUDE believes that IODOFORM will prove more useful than Silver Nitrate in the hands of *midwives*, because it can be more easily applied, and does not decompose—as the solutions of the silver-salt do even when such precautions as preserving in dark bottles, etc., are taken.

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**Iodoform** in **Cerebro-Spinal Meningitis.**—At a recent meeting of the DON MEDICAL SOCIETY, Dr. G. S. LEVITSKY ([314]) of Novotcherkassk, cited the case of a woman who had been suffering from backache for 2 years previously, in whom—after some unusual exertion—there suddenly appeared severe pain along the spinal column, headache, opisthotonos, contractions of the lower extremities, and other symptoms of Cerebro-spinal Meningitis. Treatment for 2½ weeks with Potassium Iodide and Potassium Bromide, counter-irritation, etc., failing to check the progress of the disease,—IODOFORM was given internally in doses of 0.12 gramme [2 grains] three times daily,—in pills. As a result, striking improvement was noticeable within 2 days; in 3 weeks, the patient was perfectly well.

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(313) *Annales d'Oculistique*, 1891; August.

(314) *Meditzinskoië Obozhrenië*, 1891; p. 1099.

**Lead Acetate** in Pneumonia.—In a paper read at the Twentieth Congress of the FRENCH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, Section of Medical Sciences, Dr. MARQUEZ ([315]) of Hyères stated that he had employed LEAD ACETATE in the treatment of Pneumonia since 1859, and with good success. He considers this medication specially suitable in *feeble subjects*,—particularly in tuberculous patients or in those threatened with Tuberculosis. The author pronounces it efficacious in combating the hyperemia, moderating the morbid secretions, and shortening the pneumonic process.

---

**Methylene Blue** as an Antiperiodic.—For the purpose of staining plasmodia—the microbes to which Malaria is due,—METHYLENE BLUE,—previously described in this journal ([316]), has proved to be the most suitable dye, not only for dead plasmodia in a dried and fixed blood-preparation, but also for those of freshly-drawn blood. The plasmodia—which certainly still live in such fresh blood—are stained, according to the method of CELLI AND GUARNIERI, by adding human blood-serum slightly tinged with METHYLENE BLUE to the drop of malarial blood under examination.

This staining of the plasmodia, in the first place, and, in the second the fact that METHYLENE BLUE, when infused into the blood of warm- or cold-blooded animals, colors certain parts of the red blood corpuscles,—particularly and quite constantly the *nucleus* (of such as have nuclei),—have induced GUTTMANN AND EHRLICH ([317]) to try METHYLENE BLUE in the *treatment* of Malaria. These investigators discovered that the drug had a *decided curative influence* over the disease: the periodical attacks of fever ceased within a few days of the exhibition of the drug, and at the end of eight days at the latest all plasmodia had disappeared from the blood.

This action of METHYLENE BLUE is *very* striking if we consider that modern synthetical chemistry has for years tried in vain to produce a substance which shall exert a curative influence on Malaria. All the modern antipyretics—first of all Quinoline, then Kairin, Antipyrine, Antifebrin, Thalline, Phenacetin, etc.—have *not* come up to this task.

In these experiments *chemically pure (medicinal)* METHYLENE BLUE

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(315) *La Semaine Médicale*, 1891; No. 47.

(316) MERCK'S BULLETIN, 1891, p. 12.

(317) *Berliner Klinische Wochenschrift*, 1891; No. 39.

was administered in doses of 0.1 gramme [1.5 grains], in *capsules*, five times daily. In one case of *Febris intermittens tertiana*, the intervals between the doses were three hours; in a case of *Febris intermittens quotidiana*, the five doses were given at *hourly* intervals,—beginning about 10–12 hours before the expected paroxysm.

According to the authors, the treatment must be *continued at least eight or ten days after the disappearance of the fever;*—in very severe cases even longer,—the *daily* dose of 0.5 gramme [7.5 grains] being maintained throughout. Whether the latter dose can safely be exceeded, must be determined by further experiments: only on one occasion was 0.7 gramme [10.5 grains] administered in one day, experimentally.

No unpleasant accessory symptoms of any consequence have been observed,—the sole untoward effect having been a slight spastic irritation of the bladder with increased desire to urinate. The latter, however, can be avoided—according to GUTTMANN AND EHRLICH—by administering a pinch of powdered NUTMEG several times daily.

A slight increase in the daily secretion of urine was also observed after the use of METHYLENE BLUE; albumin, however, could *never* be detected in the urine. Nevertheless, the authors advise that attention be given to this point in the beginning of the treatment.

Naturally, the urine is colored intensely blue after the ingestion of METHYLENE BLUE; the stools contain the medicament in a *reduced* form, and consequently *turn blue* immediately upon the access of air.

—Whether the treatment of Intermittent Fever by means of METHYLENE BLUE will guard against relapses,—which often supervene also upon the Quinine treatment,—cannot as yet be stated. The future will also have to decide the important question whether the tropical forms of Malaria—which so frequently defy Quinine—can be cured by a *combination* of the Quinine with the METHYLENE BLUE treatment.

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**Paraffin Oil, topically,—in Diphtheritis.**—Dr. A. M. SYDNEY-TURNER of Gloucester ([318]) reports that he has treated 30 cases (children and adults) by this means, with the result of effecting *recovery in all.* His plan is to first scrape off the diphtheritic patch, and then apply ordinary

(318) By letter to *The Lancet.*

PARAFFIN OIL—such as is used in lamps—hourly, with a large camel's hair pencil.

It is claimed that, as a rule, the throat gets well in 24–48 hours. With the improvement in the throat, the applications are made less frequently, but continued for 2–3 days after the complete disappearance of the patches. The PARAFFIN OIL must not be allowed to stand in an open vessel, as it does not seem to have the same curative effect if exposed long to the air; it should therefore be poured out from the can each time it is used.

Besides the PARAFFIN OIL applications, a generous diet and a mixture containing Iron Chloride Tincture and Potassium Chlorate are ordered,—the mixture to be taken every 3–4 hours. In some of the author's cases where, owing to the lateness of the hour, the internal medicine could not be obtained, the throat was diligently brushed with PARAFFIN OIL, with the result that there was decided improvement the following morning before any of the mixture had been taken,—showing that this improvement was due solely to the Paraffin treatment.

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**Potassa Injections** in Epithelioma.— Prof. ROSSANDER, of Stockholm, has communicated to the SWEDISH ACADEMY OF SCIENCES a detailed account of his interesting observations on the treatment of Epithelioma by injections of POTASSA around the tumor. Four cases were stated to have been *entirely cured.* It was this success which rendered it obligatory to the author to report the matter to the ACADEMY; but he is most desirous of *avoiding to raise too great expectations* for the present.

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**Pyoktanin** in Malignant Neoplasms.— Dr. C. LODIGIANI reports ([319]) on the results obtained by Prof. A. CECCHERELLI at the Surgical Clinic of the UNIVERSITY OF PARMA. In one case (enormous *Sarcoma* of the lower jaw, side of the face, etc.), parenchymatous injections of 2–4 grammes [½–1 dr.] of a 1 : 300 solution, repeated every 2 or 3 days, caused an arrest of growth, but no reduction in the size of the tumor.

In a case of recurrent *Epithelioma* of the lower eyelid and cheek, the large ulcerated surface was dressed with gauze saturated with a 1 : 300 solu-

(319) *La Riforma Medica*, 1891; No. 179.

tion of PYOKTANIN, for nearly 4 months. During that time, there was no spread of the ulcer.

In one case of recurrent *Cancer* of the breast, parenchymatous injections of PYOKTANIN had no effect on the progress of the disease; while in another, the same treatment completely arrested epithelial proliferation, and relieved the pain.

—Dr. M. BELLOTTI (*ibid.*) has also tried PYOKTANIN in 2 cases of malignant new-growths. In one case (extensive *Rodent Ulcer* of 12 years' standing) dressings of carbolized cotton-wool, saturated with a 1% solution of PYOKTANIN,—afterwards with PYOKTANIN-COLLODION (1 : 30),—checked the extension of the ulcerative process, softened the indurated edges, cleaned the surface of the ulcer, relieved the pain, and prevented fetor. There was no healing, however; but the patient's condition improved considerably.

In a case of *Epithelioma* of the lip, two months' application of the PYOKTANIN-COLLODION (1 : 30) improved the local condition, and seemed to check the progress of the disease.

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**Salol** as a **Coating for Pills.**—In consequence of the fact that SALOL is not dissolved in the stomach but is only attacked by the pancreatic juice after it reaches the intestine, Dr. CEPPI suggested its use for coating pills intended not to act *before they enter the intestines.* Dr. YVON publishes ([320]) the following formula for the purpose in question:

| | | |
|---|---|---|
| SALOL | 2 | grammes [30 grains]. |
| Tannin | 0.5 | gramme [7½ " ]. |
| Ether | 10 | grammes [3 fl. drs.]. |

With this solution the pills are varnished several times, until the protecting layer is sufficiently thick. The entire operation—Dr. YVON states—does not occupy more time than is required in varnishing with Tolu Balsam.

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**Silver Nitrate** in **Actinomycosis.**—Dr. A. KÖTTNITZ, of Zeitz, reports ([321]) on the marked success he has had with SILVER NITRATE in the treatment of four cases of Actinomycosis, probably of buccal origin,—as the patients, who had never paid any attention to the toilet of the

(320) *Union Pharmaceutique*, 1891; p. 436.

(321) *Deutsche Medicinische Wochenschrift*, 1891; p. 1047.

mouth, all had carious teeth. The actinomycotic tumors usually began at the angle of the lower jaw and extended along the course of the sterno-cleido-mastoid muscle or into other regions of the neck. The author regards cauterizations with the *solid stick* of SILVER NITRATE the *best* means of treating the parasitic affection in question when the tumors are softened and have been opened: the fistulas and the wounds heal with surprising rapidity, and the tumors rapidly diminish in size and finally disappear entirely; no new eruptions of Actinomycosis develop.

One of the author's cases had been very chronic (of 3 years' duration), —numerous recurrent deposits taking place which required incision and formed chronic fistulæ. No treatment proved of any avail until SILVER NITRATE was applied to the abscess-cavities and fistulas.

—Dr. KÖTTNITZ suggests that the actinomycoses may be *specially* sensitive to certain reagents, of which SILVER NITRATE probably is one.

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**Silver Nitrate** in Chronic Gastric Catarrh. — At the Fourth Congress of the ITALIAN SOCIETY OF INTERNAL MEDICINE, held at Rome, Dr. FORLANINI read a paper ([322]) on the use of weak solutions of SILVER NITRATE for irrigating the stomach in Chronic Gastric Catarrh. His mode of procedure is as follows:

At first the stomach is washed out with a 2% solution of Sodium bi-Carbonate; then half a litre [1 pint] of a 1 : 10,000 solution of SILVER NITRATE is introduced. A portion of this solution is now drawn off again, and air is injected into the stomach in such a manner as to dilate it and bring the entire mucous membrane into contact with the liquid. This is repeated until the portion of the liquid withdrawn has become *milky*; when the entire contents of the stomach are aspirated, and another half litre of SILVER NITRATE solution introduced. Finally the stomach is washed out with boiled water to which some Sodium Chloride has been added.

According to the author, the SILVER NITRATE stimulates the mucous membrane, gives tone to the gastric muscles, and always diminishes gastro-ectasis; it also considerably diminishes the quantity of gastric mucus, which falls below the nominal average.

Irrigation of the stomach with SILVER NITRATE solutions is—in Dr. FORLANINI's opinion—specially adapted to cases of Chronic Gastric Catarrh *with dilatation*.

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(322) *La Semaine Médicale*, 1891; p. 438.

**Sodium Salicylate** in Serous Pleuritis.—Dr. M. A. STRIZOWER reports ([323]) on eight cases of Serous Pleuritis treated by means of SODIUM SALICYLATE, internally, in doses of 1 gramme [15 grains] three times daily, after meals,—each dose being followed by a draught of wine In seven of the eight cases, the temperature rapidly fell to the normal, and the condition of the patient improved; in about a week, the dyspnea was relieved, and the area of dullness diminished,—complete recovery supervening in all in about eighteen days.

In the eighth case, the treatment—which was continued for four days—entirely failed. But it eventually proved to be a case of *Empyema*. From the observations made on these eight cases, the author draws the following conclusions:

1.—SODIUM SALICYLATE is doubtlessly a most valuable remedy in Serous Pleuritis.

2.—It affords a reliable means of determining the character of the pleuritic effusion,—that is to say,—of differentiating *Serous* from *Purulent* or *Sero-purulent* Pleuritis.

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**Strontium Bromide** in Diseases of the Stomach.—In consequence of Dr. LABORDE's reports on the innocuousness of the Strontium Salts, Prof. SÉE of Paris, ([324]) instituted a series of observations on these salts with a view to determining their therapeutic applications, and found that their diuretic property which LABORDE observed in his experiments on *dogs* failed to manifest itself in *human beings*, even in cases where diuresis could be easily provoked by other means. But he noticed, on the other hand, that in patients affected with renal or cardiac disease, the *disturbances of digestion*—which are often so pronounced in these affections—were *markedly improved* under the influence of the Strontium.

The latter observation led the author to try Strontium in the treatment of Gastric Diseases. Consequently STRONTIUM BROMIDE—which is soluble in every proportion in water—was employed in 32 cases of *Dyspepsia*, mostly associated with *hyper-acidity*, with or without dilatation. The *daily* dose ranged from 2 grammes [30 grains] to 4 grammes [60 grains],—taken during the three meals.

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(323) *Meditzinskoië Obozhrenië*, 1891; p. 18.

(324) *La Semaine Médicale*, 1891; p. 435.

All the 32 cases were promptly and favorably modified, some even totally cured. The most striking result was the great *diminution in the formation of gas.*

In 8 cases of Dyspepsia with *sub-acidity*, the medicament had the same beneficial effect.

Finally, in 6 cases of *Nervous Vomiting*, the STRONTIUM BROMIDE exerted a favorable influence.

# SELECTIONS.

## CAFFEINE IN PNEUMONIA. (325)

DE GEMPT urges the use of CAFFEINE in cases of threatened collapse in various asthenic diseases, but especially in Acute Pneumonia, and cites several cases in which it was successfully used in conjunction with stimulants. He believes the drug indicated in the course of Acute Pneumonia when there is evidence of *cardiac failure*, such as rapid, irregular pulse with lowered tension. Should the Pneumonia be of asthenic type, it should be used from the onset, and the earlier in the course of the disease it is used after asthenia develops, the better. In cases of this sort, CAFFEINE, in doses of 0.35 gramme four to five times daily, raises the arterial tension, diminishes the rate of the respiration and pulse, and lowers the temperature. The action is *prompt*, but in urgent cases it had better be used hypodermically. It is advisable to continue it for a brief period after the febrile defervescence.

## CANNABIS INDICA IN GASTRIC AFFECTIONS. (326)

Prof. GERMAIN SÉE considers CANNABIS INDICA, administered in the form of an extract, to be an ideal gastric sedative in most affections of the stomach, other than organic, associated with pain. When, however, the condition is associated with hyper-acidity, large doses of Sodium bi-Carbonate, given three or four hours after a meal, assist in obviating the symptoms. It is, however, useless in atonic and dilated conditions of the stomach. He points out that gastric digestion is facilitated by the drug, and very great relief is afforded to the collateral symptoms—such as vertigo, headaches, palpitation, and dyspnea. It is free from the inconveniences that attend the exhibition of narcotics, such as opium, chloral, etc., but its use does not preclude resort to the ordinary curative treatment, both dietetic and medicinal. The drug should preferably be employed in the form of a crude extract, in doses, three times daily, of a third of a grain. The active principles extracted from the plant failed to yield the same satisfactory results.

(325) *Boston Medical and Surgical Journal*, 1891 ; p. 179.

(326) *New York Medical Times.*

## CHROMIC ACID IN HABITUAL EPISTAXIS. (327)

In the St. Petersburg semi-weekly, *Meditzïna*, No. 51, 1890, p. 413, Dr. METCHISLAV V. POGORELSKY, of Elisavetgrad, relates three cases of obstinate habitual epistaxis in school boys, in which, following Dr. HERYNG'S recommendation, he successfully resorted to cauterizing with crystalline CHROMIC ACID, after all ordinary means had failed. In all the three patients, a rhinoscopic examination revealed the presence of a small-sized sharply circumscribed, highly vascularized area, situated on the nasal septum. Only this congested spot was treated with the ACID,—the application being repeated once or twice a week, and always followed by washing out the nasal cavity with a weak solution of Sodium Chloride, Sodium bi-Carbonate, or Borax. In two of the cases, 4 or 5 *séances* proved sufficient to effect a complete and permanent cure; in the third, a few more applications were necessary to obtain the result.

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## PILOCARPINE IN EDEMA OF THE GLOTTIS. (328)

At a recent meeting (May 4th–5th) of the French Society of Otology and Laryngology, Dr. SUAREZ DE MENDOZA, of Angers, related (*Semaine Médicale*, May 6th, 1891) a case in which he was called in to see a young man attacked by serious Edema of the Glottis causing suffocative dyspnea. Tracheotomy had been proposed, but SUAREZ DE MENDOZA, seeing that in the middle of the swelling a narrow slit was still visible during inspiratory effort, suggested that PILOCARPINE, which he had already found successful in two similar cases, should be tried. Three hypodermic injections were given at intervals of twenty minutes, the total amount of PILOCARPINE administered being 25 milligrammes. Marked relief followed the first injection, and a quarter of an hour after the third, the patient was breathing easily and quietly, and was entirely out of danger. In eight days he was quite well.

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## SODIUM FLUORIDE IN TUBERCULOSIS. (329)

Having observed the similarity of the beneficial effects of dog- and goat-serum and SODIUM FLUORIDE in Tuberculosis, M. BOURGEOIS was led to analyze the serum of the blood of these animals, which, as is well known, are refractory to the disease in question. M. BOURGEOIS has succeeded in engraving letters on glass by means of the blood of the dog and goat; and he believes that, employed as a therapeutic agent, it is the SODIUM FLUORIDE, which he designates the natural preventive of Tuberculosis, which endows the vital fluid of these animals with its antibacillary powers. M. BOURGEOIS was led to give the FLUORIDE a trial in consequence of the happy results obtained by inhalations of Hydrofluoric Acid. The results were good in the pulmonary, intestinal, and osseous forms of Tuberculosis, the patients gaining in weight and the sweats disappearing.

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(327) *Medical and Surgical Reporter*, 1891; No. 10.

(328) *The Medical and Surgical Reporter*, 1891; p. 220.

(329) *The Pacific Record*, 1891; p. 344.

## PAR-ALDEHYD IN TETANUS. (330)

Dr. V. E. IGNATIEFF reports two cases of Tetanus (a boy of 14 years, and a woman of 29) in which PAR-ALDEHYD was administered by the mouth and rectum—in daily doses of 3.75 to 9.40 grammes in the former (95.68 grammes in nineteen days), and 15 grammes in the latter case (450 grammes in thirty days)—after Chloral had already been given in large doses without result. *Both patients recovered completely. No disagreeable secondary action* of the drug was observed. Dr. TCHERVINSKY communicated a case of Tetanus to the writer which was also successfully treated with PAR-ALDEHYD. Therefore, the author warmly recommends this method of treatment. The drug not only causes the convulsions to disappear, but also at the same time diminishes the pain, quiets the patient, combats the insomnia, and permits the patient to be fed.

# GATHERED FORMULAS.

32 and 33.—**PICRIC ACID** in Moist and Impetiginous Eczemas.—[CERASI (331)].

—Ointment.—

| | |
|---|---|
| PICRIC ACID | 1 part. |
| Sulphuric Ether | *a sufficient quantity to dissolve.* |
| Lanolin | 230 parts |

*Externally!*

—Lotion.—

| | |
|---|---|
| PICRIC ACID | 1–2 parts. |
| Sulphuric Ether | *a sufficient quantity to dissolve.* |
| Rose Water | 300 parts |

*Externally!*

34.—**HAIR WASH** in Seborrhœa capitis (particularly in women with long hair).—[LIEBREICH (332).]

| | |
|---|---|
| Ether Spirits | 1000 parts. |
| Benzoin Tincture | 100 " |
| Vanillin | 1 part. |
| Heliotropin | 3 parts. |
| Geranium Oil | 2 " |

*Externally!—Pour a tablespoonful on the head once a day, after washing* (or without previously washing), *and rub-in with a fine cloth.*—(Inflammable!)

(330) *The Journal of Nervous and Mental Diseases*, 1891; p. 455.

(331) *Gazzetta Medica di Roma.*

(332) *Therapeutische Monatshefte*, 1889.

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*Blood-serum* a Natural Bactericide ; *Serous* (*without* Cellular !) *Exudation* from Capillaries a characteristic effect of CANTHARIDIN in proper dose ; hence, morbid *Kidney-irritation not* a necessary concomitant ; Hypodermic administration *evades Gastric irritation*; ALKALINE SALTS chosen for *solubility*; SPECIAL FORMULA:—*excess of Alkali*, as much as needed for permanence of dilution,—but *no more*, to avoid local irritation!..... 45

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